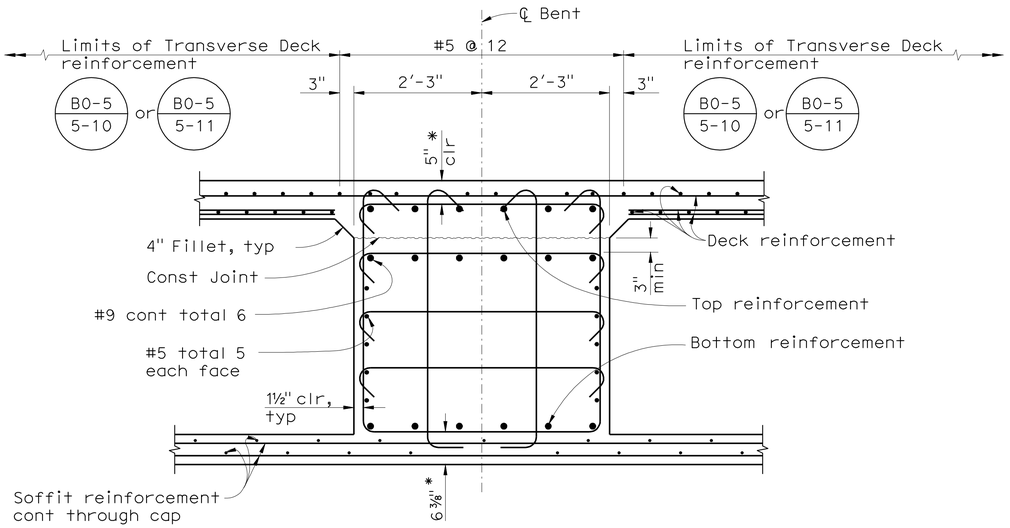
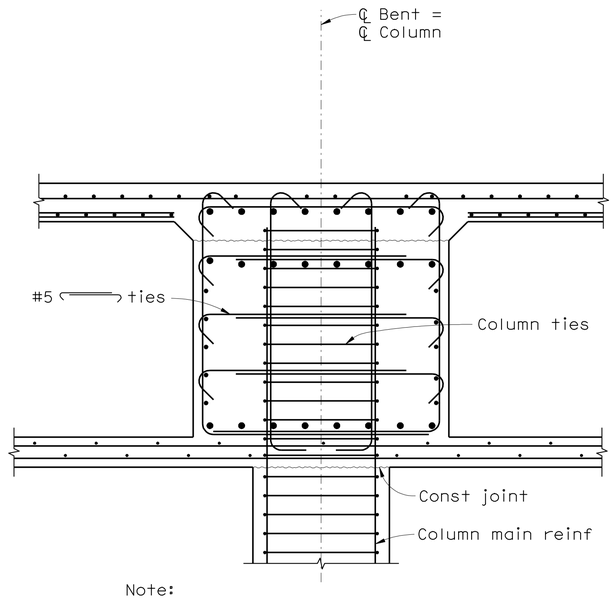


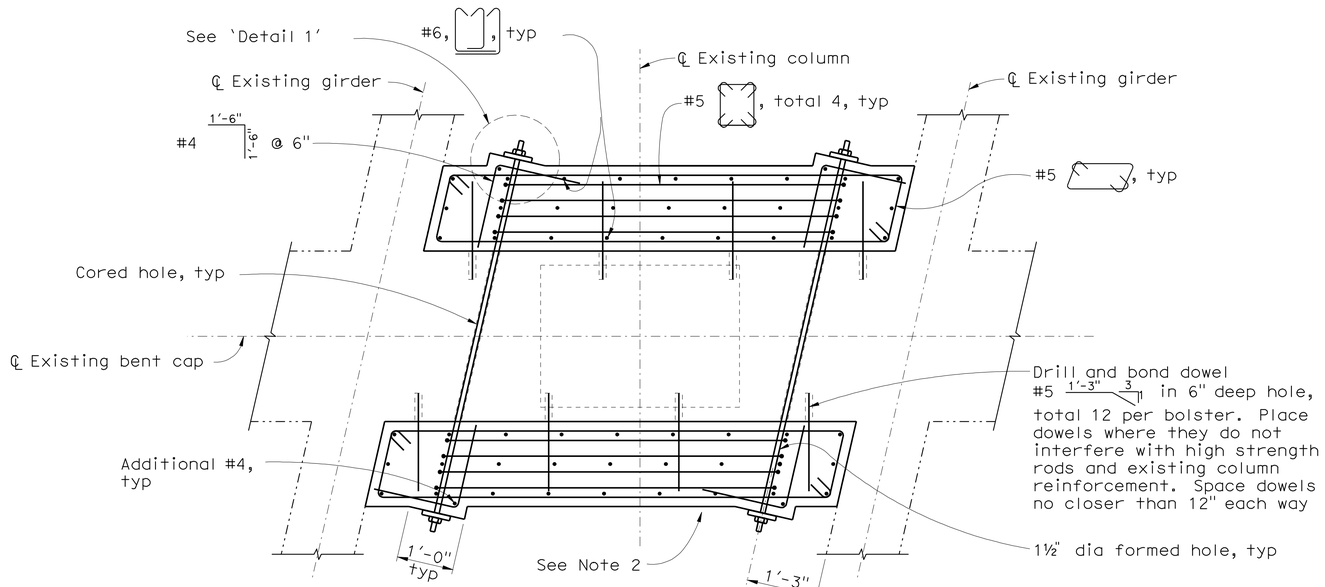

Note:
* Indicates clearance to main cap bars.

## SECTION F-F
3/4" = 1'-0"

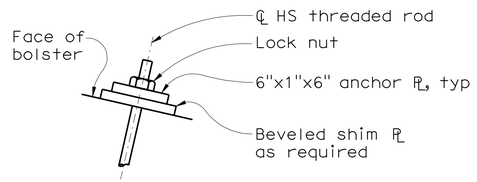



Note:
See 'SECTION F-F' for details not noted.

## SECTION G-G
3/4" = 1'-0"




## SECTION H-H
3/4" = 1'-0"




## DETAIL 1
1 1/2" = 1'-0"

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1101 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

PLANS APPROVAL DATE 10-11-10

REGISTERED PROFESSIONAL ENGINEER — RONALD L OEN — No. 46945 — Exp. 9/30/11 — CIVIL — STATE OF CALIFORNIA

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STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

Note:
1. At contractor option, shotcrete may be used for bent cap retrofit.
2. See 'BENT DETAILS No. 4' sheet for pre-stressing notes.

DESIGN OVERSIGHT John Fujimoto — 8-2-10 SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# BENT DETAILS No. 3

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

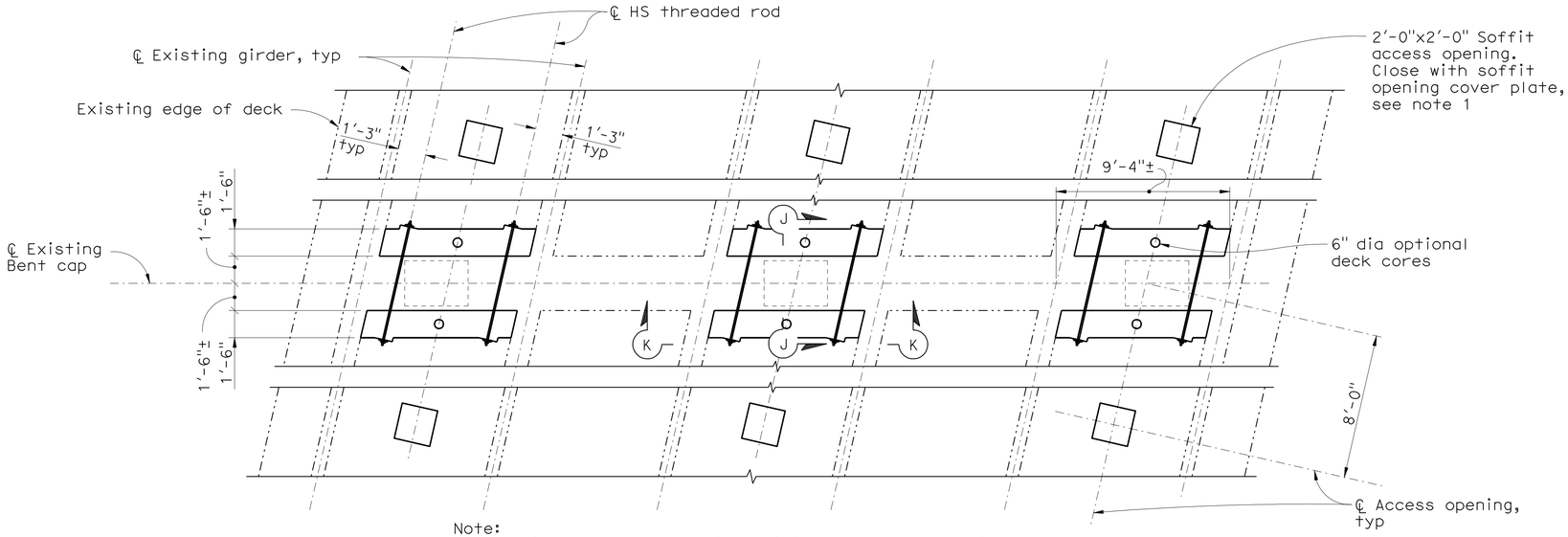
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES (PRELIMINARY STAGE ONLY) | | | | | | | | SHEET | OF |
|---|---|---|---|---|---|---|---|---|---|
| 10/16/09 | 12/4/09 | 1/15/10 | 4/23/10 | 5/28/10 | 6/11/10 | 7/28/10 | | 16 | 34 |

FILE => 29-0226-j-b15d3.dgn

USERNAME => rfriend DATE PLOTTED => 18-OCT-2010 TIME PLOTTED => 11:56

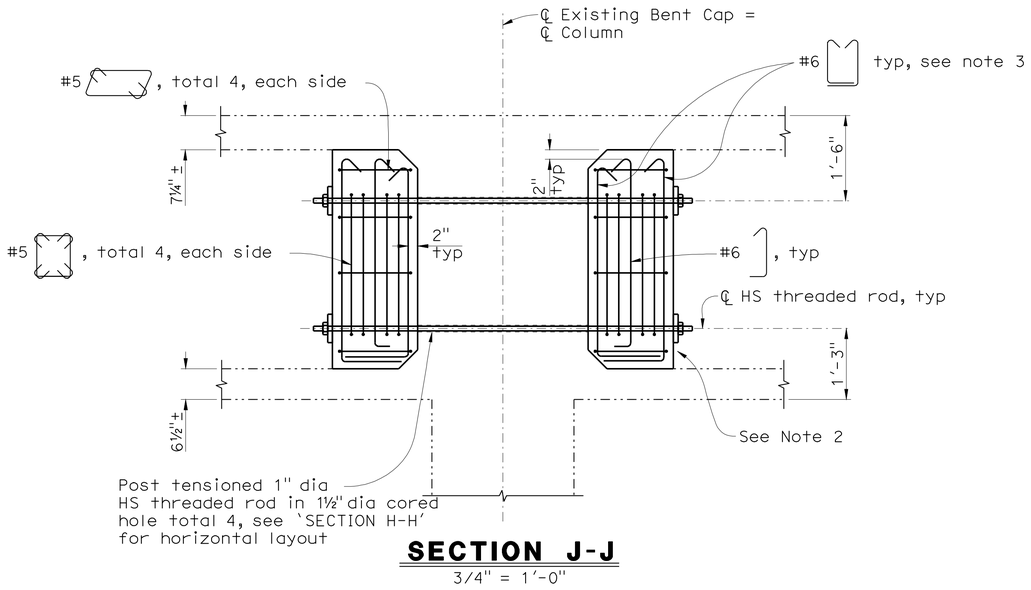
2006048 (20060485 15C)




Note:
Right Bridge shown, Left Bridge similar. Bolsters required at each column, on each face of Bent, at both existing bridges.

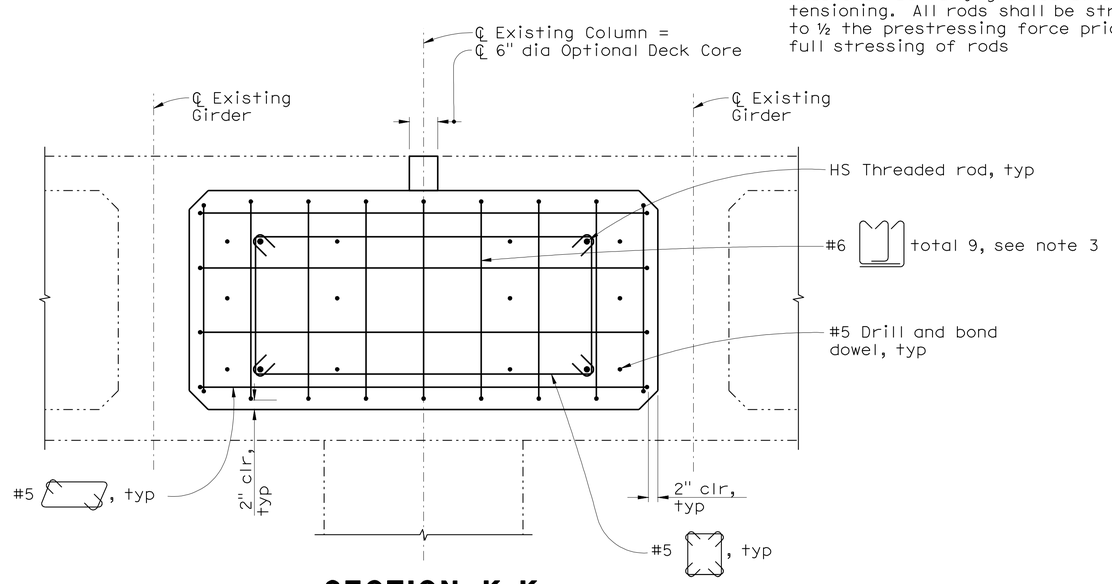
## PARTIAL PLAN (EXISTING RIGHT BRIDGE)

1/4" = 1'-0"




## SECTION J-J

3/4" = 1'-0"




## SECTION K-K

3/4" = 1'-0"

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

Notes:

1. For 'SOFFIT ACCESS DOOR ASSEMBLY', see 'SOFFIT OPENINGS' sheet.
2. Move reinforcement as needed to avoid interference with existing 3" dia water lines.
3. Stirrups shall be placed parallel to ℄ Existing girder.

Pre-stressing Notes:

150 ksi High strength threaded rods (ASTM A-722).

1" dia Rods, $A_{ps}$ = 0.85in²
Pjack = 90k per Rod
Anchor Set = 1/16"
Concrete f'c = 4,000psi at 28 days
f'ci = 3,600 psi at time of stressing

Rods maybe stressed from either end. Rods shall be fully grouted after tensioning. All rods shall be stressed to ½ the prestressing force prior to full stressing of rods

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1102 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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555 E. WEBER AVENUE
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

John Fujimoto — DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

FILE => 29-0226-j-b16d4.dgn

| BRIDGE NO. | 29-0226 |
|---|---|
| POST MILES | 29.83 |

# EBMUD AQUEDUCT UC (WIDEN)

# BENT DETAILS No. 4

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/1/10 7/28/10

SHEET 17 OF 34

USERNAME => tfrstrk DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 17:02

(20060485 16C) 20060485

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1103 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

PLANS APPROVAL DATE 10-11-10

REGISTERED PROFESSIONAL ENGINEER — RONALD L OEN — No. 46945 — Exp. 9/30/11 — CIVIL — STATE OF CALIFORNIA

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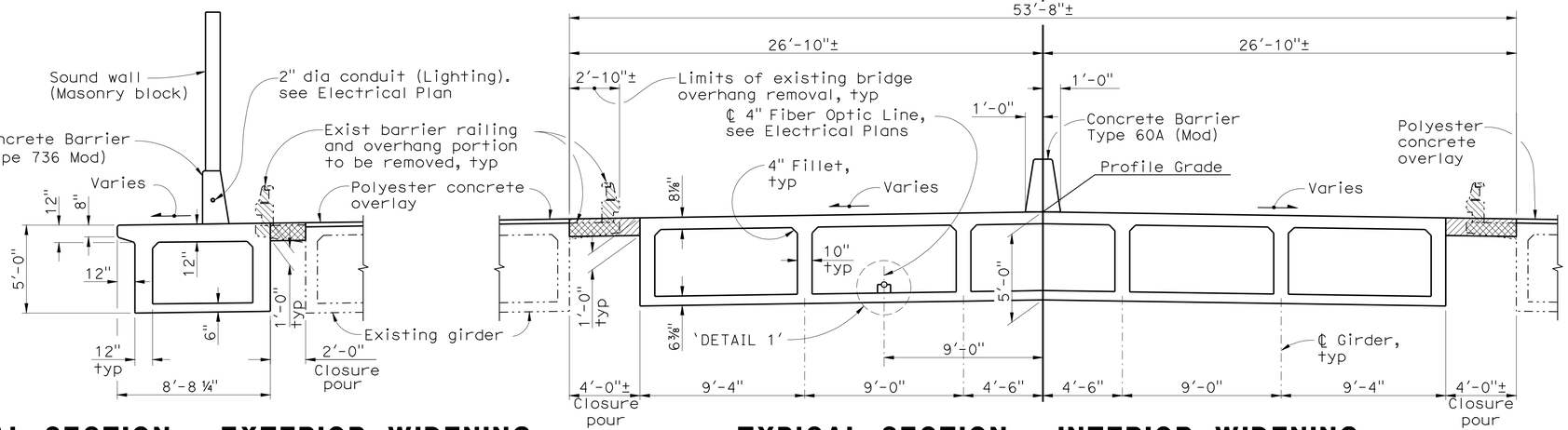
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126




## TYPICAL SECTION - EXTERIOR WIDENING

1/4" = 1'-0"




## TYPICAL SECTION - INTERIOR WIDENING

1/4" = 1'-0"

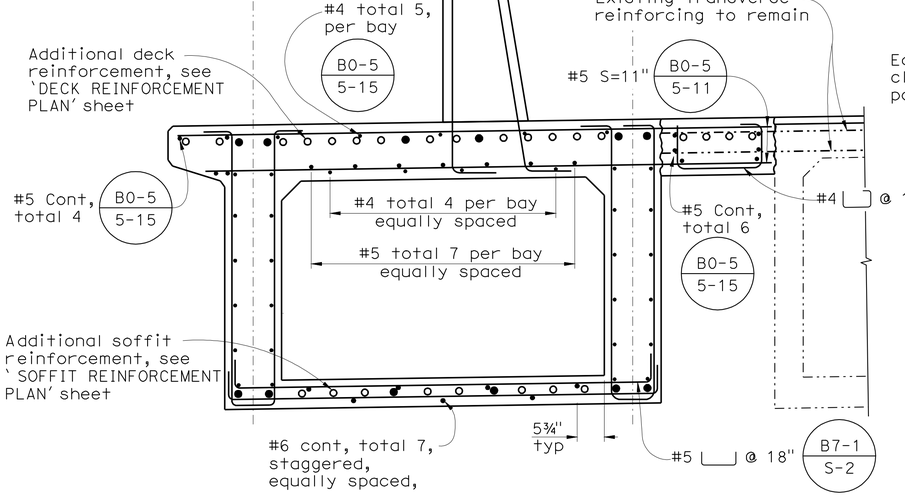
Notes:

1. All dimensions are measured normal to 'I-5' Line.
2. Transverse deck & soffit reinforcement shall be placed parallel to C d but & spaced normal to 'I-5' Line.
3. For 'DETAIL 1' see 'GIRDER LAYOUT No. 2' sheet.

Legend:

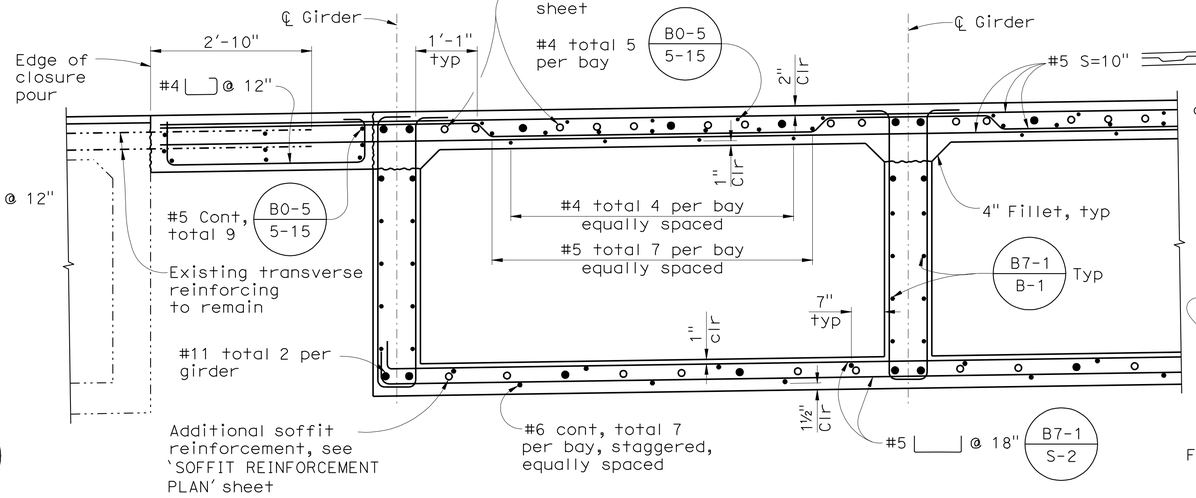
Bridge Removal (Portion)

Closure Pour



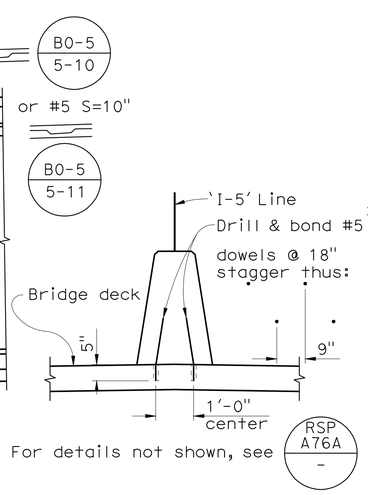

## PARTIAL TYPICAL SECTION - EXTERIOR WIDENING

3/4" = 1'-0"




## PARTIAL TYPICAL SECTION - INTERIOR WIDENING

3/4" = 1'-0"




## CONCRETE BARRIER TYPE 60A (MOD)

NO SCALE

FALSEWORK RELEASE NOTES

Alternative 1:
Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released.

Alternative 2:
Falsework shall not be released less than 28 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released.

When falsework release alternative 2 is used, camber values are 0.75 times those shown.

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

DESIGN OVERSIGHT John Fujimoto — 8-2-10 SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)

## TYPICAL SECTION

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 18 OF 34

FILE => 29-0226-m-ts1.dgn

USERNAME => trlenard DATE PLOTTED => 18-OCT-2010 TIME PLOTTED => 11:56 (20060485176) 2006048

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1104 | 1132 |

REGISTERED CIVIL ENGINEER — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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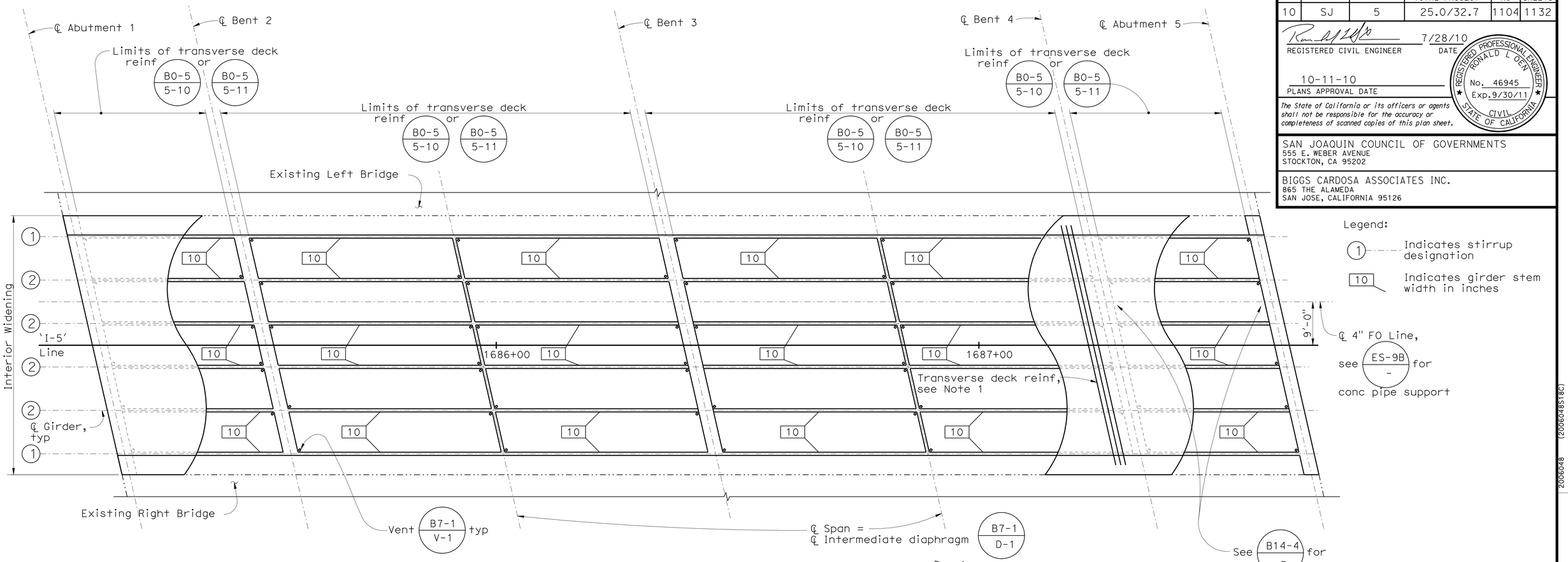
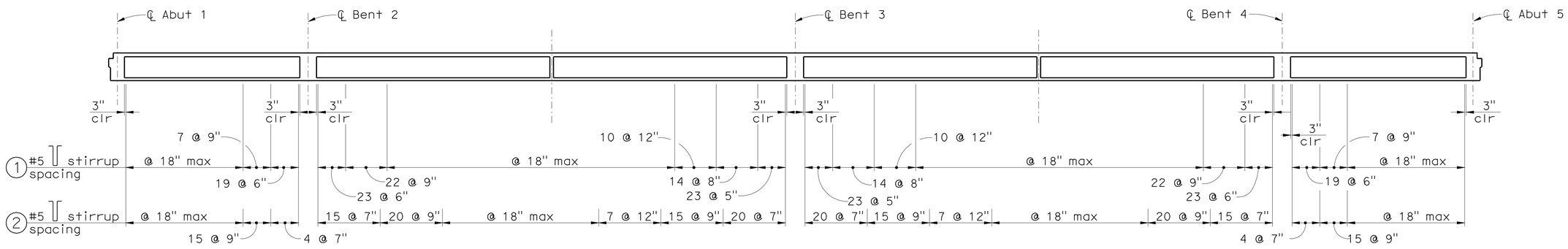
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126




Legend:
(1) Indicates stirrup designation
10 Indicates girder stem width in inches

## GIRDER LAYOUT - INTERIOR WIDENING
1" = 10'




## LONGITUDINAL SECTION - INTERIOR WIDENING
NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

DESIGN OVERSIGHT John Fujimoto — 8-2-10 SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

CU 06240
EA 0G4701

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# GIRDER LAYOUT No. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES (PRELIMINARY STAGE ONLY) | | | | | | | | SHEET | OF |
|---|---|---|---|---|---|---|---|---|---|
| 10/16/09 | 12/4/09 | 1/15/10 | 4/23/10 | 5/28/10 | 6/11/10 | 7/28/10 | | 19 | 34 |

FILE => 29-0226-n-g-lo01.dgn

20060485 (20060485180)
USERNAME => trstfk DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 17:03

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1105 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

PLANS APPROVAL DATE 10-11-10

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

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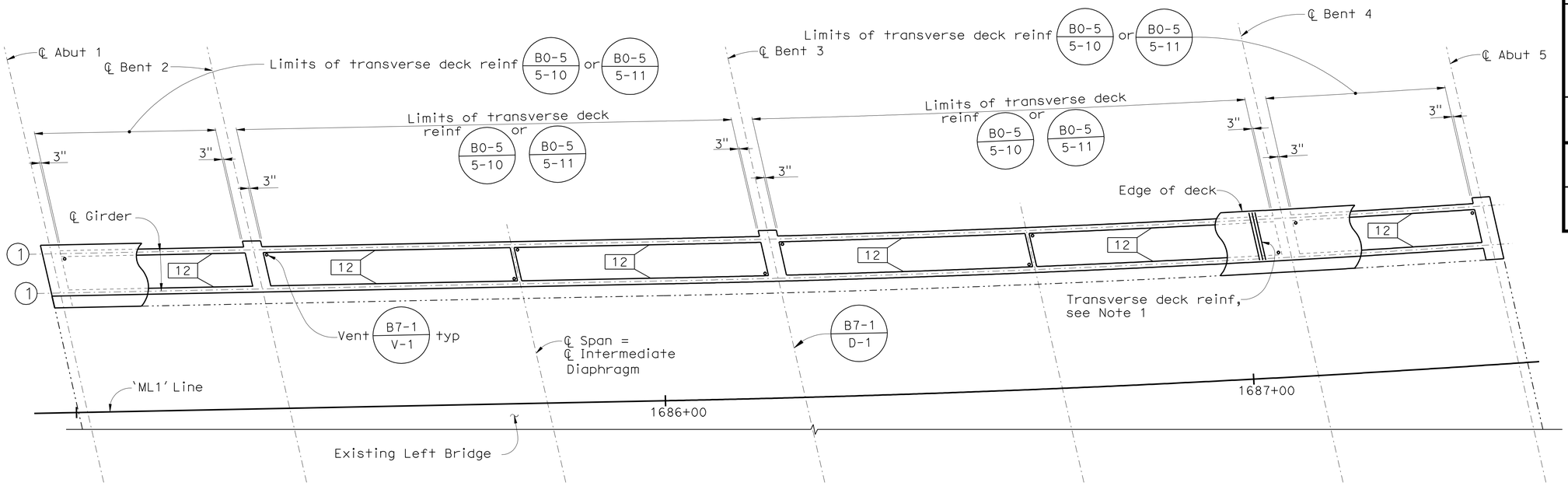
555 E. WEBER AVENUE
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126



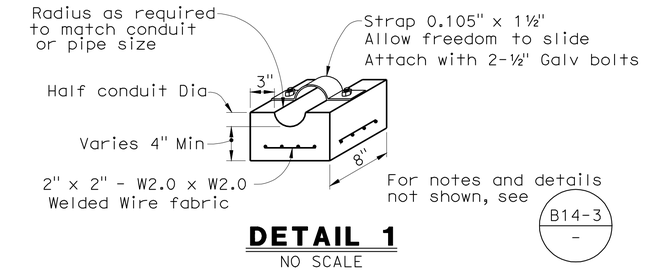

## GIRDER LAYOUT - EXTERIOR WIDENING

1" = 10'

Legend:

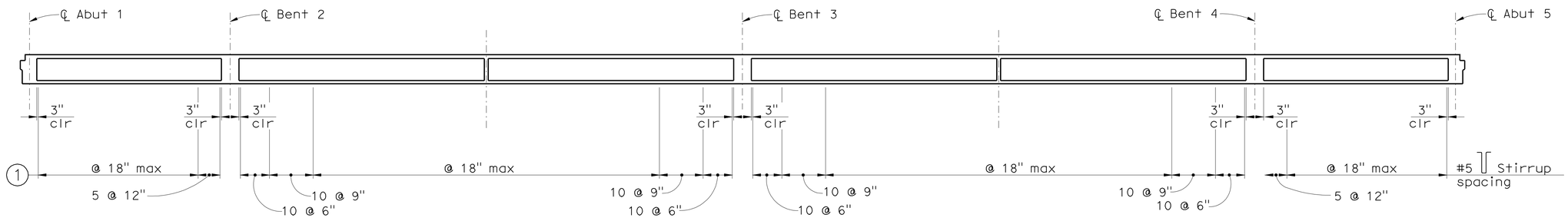
(1) Indicates stirrup designation

[12] Indicates girder stem width in inches




## DETAIL 1

NO SCALE




## LONGITUDINAL SECTION - EXTERIOR WIDENING

NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

| | | | | | |
|---|---|---|---|---|---|
| DESIGN OVERSIGHT John Fujimoto — 8-2-10 SIGN OFF DATE | | DESIGN | BY T. SWENSON | CHECKED A. NOTARO | PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION |
| | | DETAILS | BY T. SWENSON | CHECKED A. NOTARO | |
| | | QUANTITIES | BY J. YIP | CHECKED P. GONGIDI | |

JOHN A. ALCIATI
PROJECT ENGINEER

CU 06240
EA 0G4701

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# GIRDER LAYOUT No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

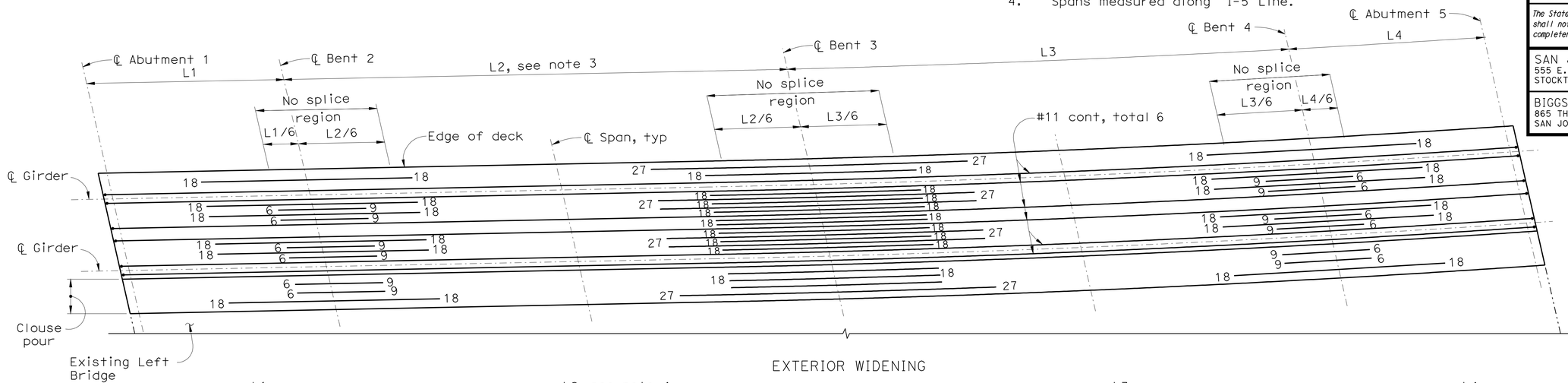
SHEET 20 OF 34

FILE => 29-0226-n-g-lo02.dgn

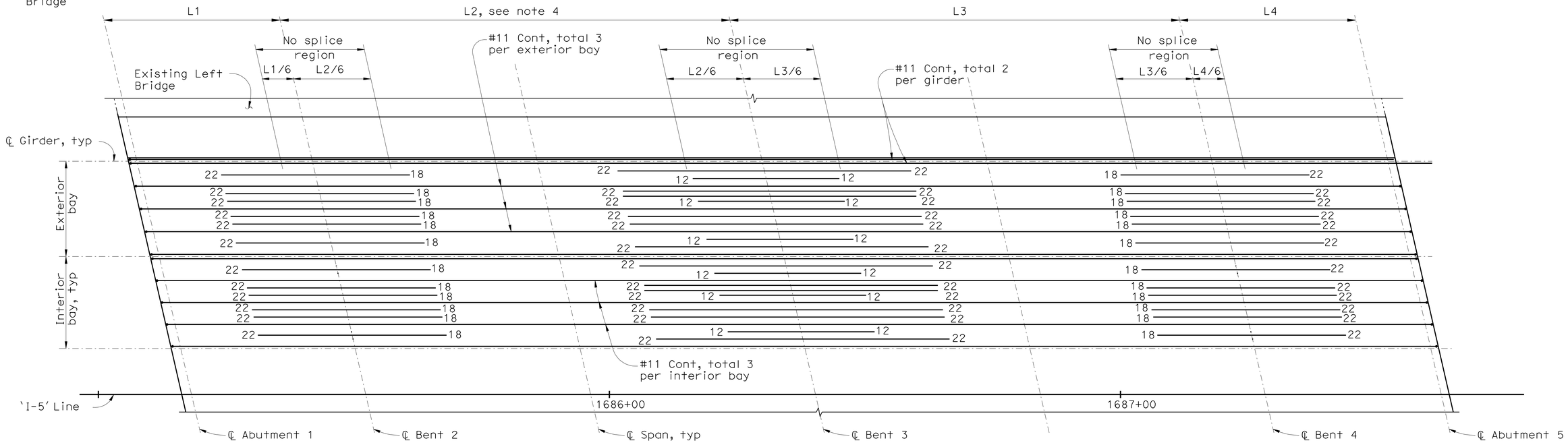
20060048 (20060485193C)

USERNAME => trstrk DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 17:03

Note:
1. All reinforcing shall be #11 unless otherwise noted
2. Numbers at end of bars indicate distance in feet from ℄ of support.
3. Spans measured along 'ML1' Line.
4. Spans measured along 'I-5' Line.




EXTERIOR WIDENING




INTERIOR WIDENING

## DECK REINFORCEMENT

NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1106 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE 10-11-10

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STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

DESIGN OVERSIGHT John Fujimoto — 8-2-10 SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# DECK REINFORCEMENT PLAN

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 21 OF 34

FILE => 29-0226-q-dkrf01.dgn

2006048 (2006048220C)
TIME PLOTTED => 17:03
DATE PLOTTED => 13-OCT-2010
USERNAME => trstrk

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1107 | 1132 |

REGISTERED CIVIL ENGINEER — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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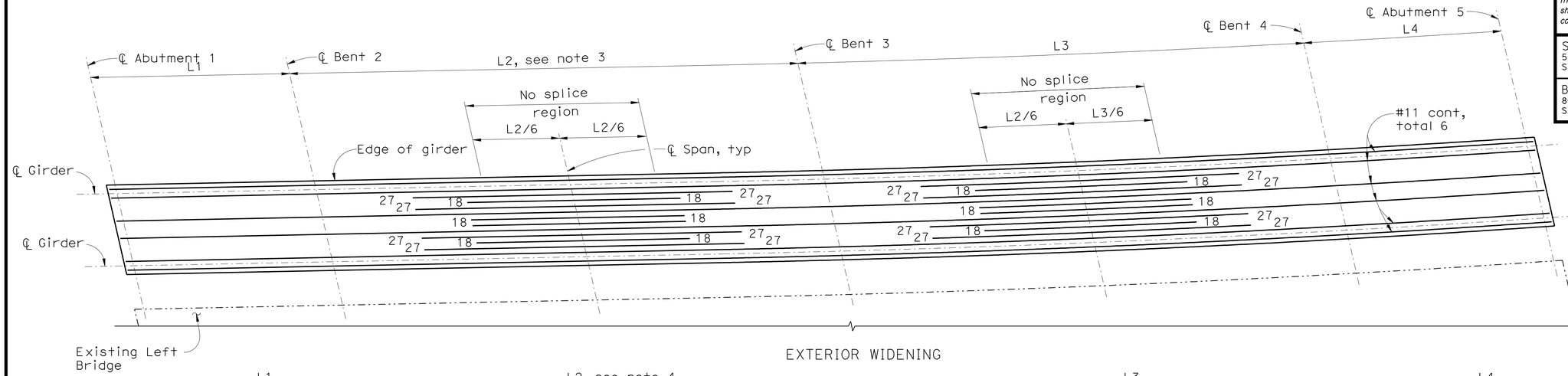
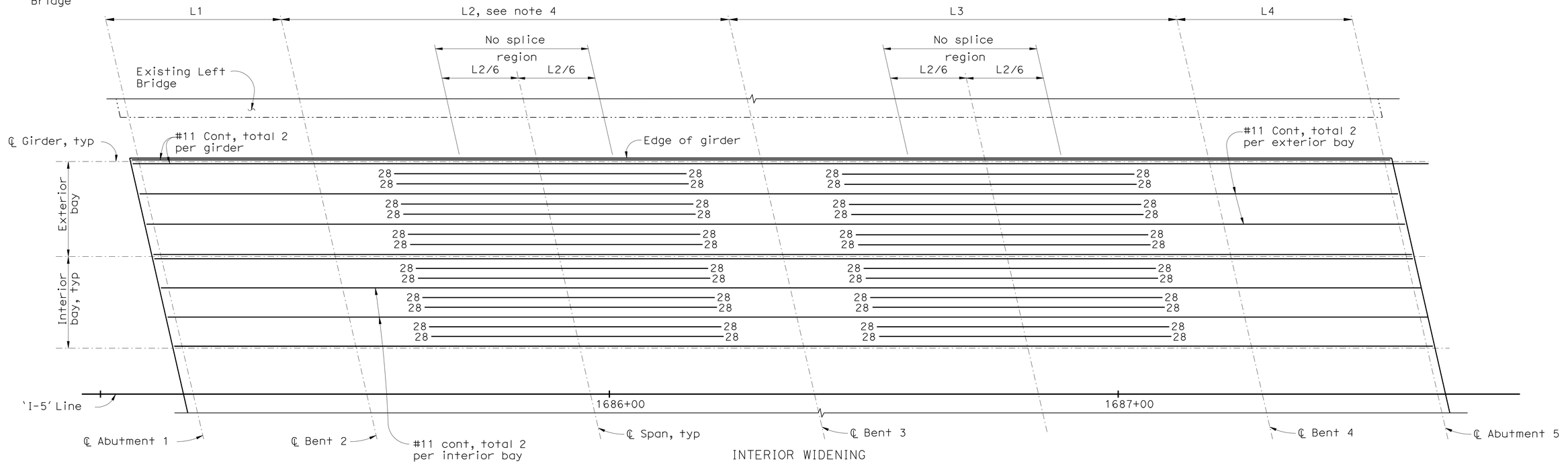
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

Note:
1. All reinforcing shall be #11 unless otherwise noted
2. Numbers at end of bars indicate distance in feet from ℄ of span.
3. Spans measured along 'ML1' Line.
4. Spans measured along 'I-5' Line.




EXTERIOR WIDENING




INTERIOR WIDENING

## SOFFIT REINFORCEMENT

NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

John Fujimoto
DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# SOFFIT REINFORCEMENT PLAN

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 22 OF 34

FILE => 29-0226-q-sfrf01.dgn

2006048 (2006048521C)
TIME PLOTTED => 17:03
DATE PLOTTED => 13-OCT-2010
USERNAME => trsitk

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1108 | 1132 |

REGISTERED CIVIL ENGINEER — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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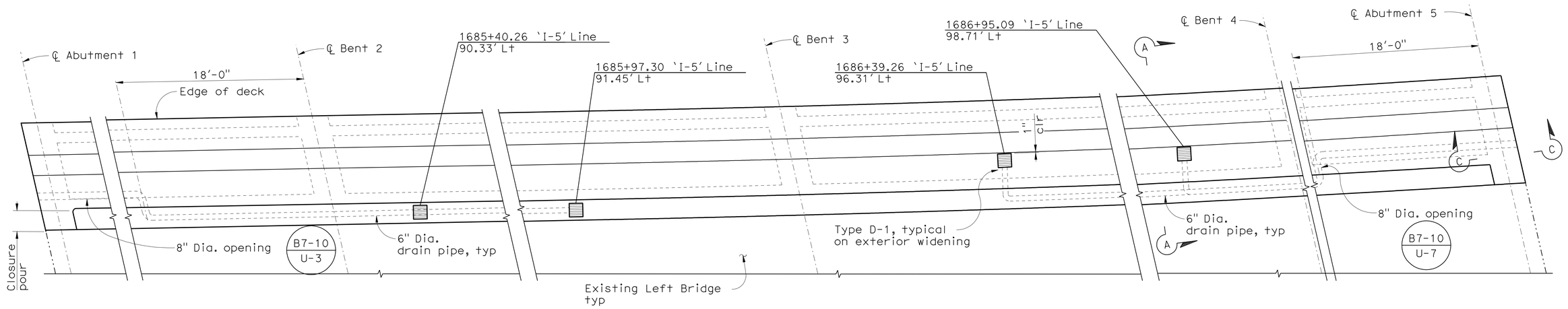
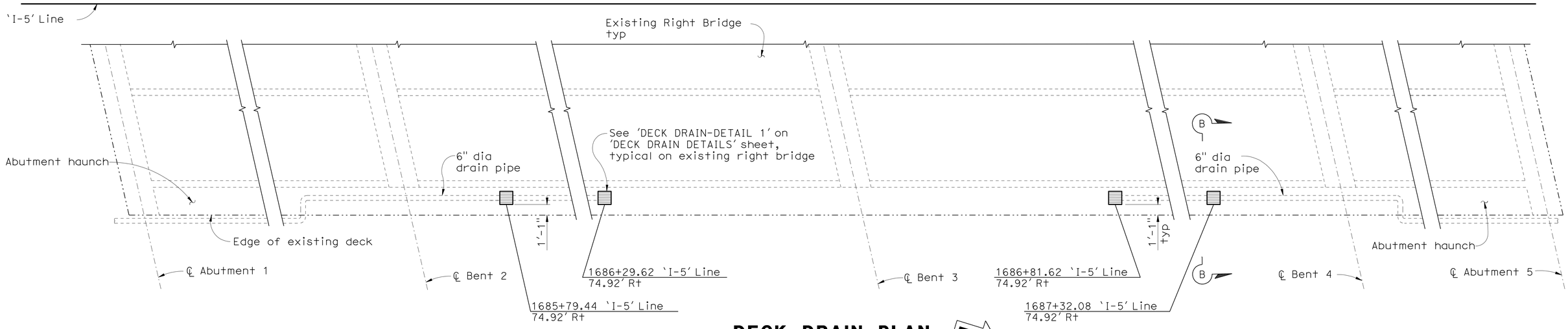
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

Notes:

1. Barriers not shown for clarity.
2. Sound wall not shown for clarity.
3. For 'SECTION A-A','SECTION B-B', and 'SECTION C-C', see 'DECK DRAIN DETAILS' sheet.




## DECK DRAIN PLAN

1" = 5'

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

John Fujimoto — John Fujimoto
DESIGN OVERSIGHT
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
## DECK DRAIN PLAN

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 23 OF 34

FILE => 29-0226-s-dd01.dgn

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1109 | 1132 |

REGISTERED CIVIL ENGINEER — 7/28/10 DATE

REGISTERED PROFESSIONAL ENGINEER — RONALD L OEN — No. 46945 — Exp.9/30/11 — CIVIL — STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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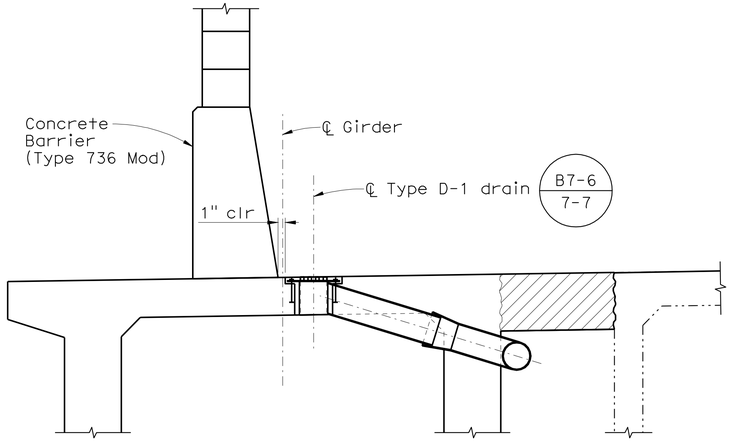
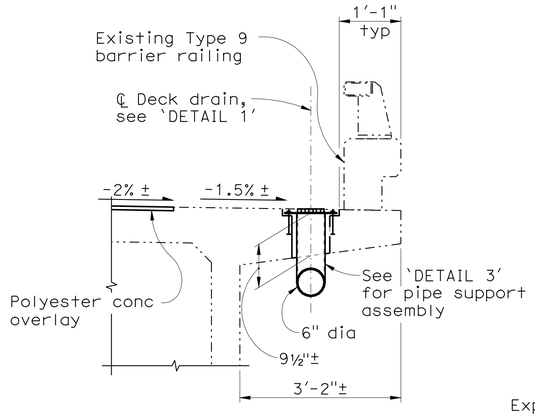
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126



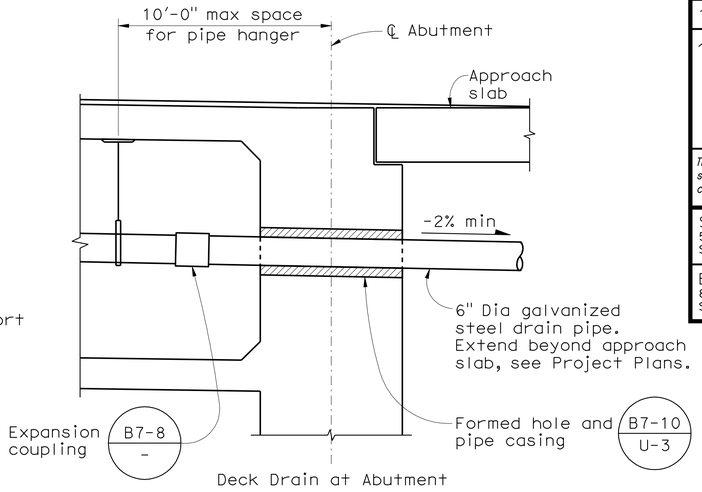

Deck Drain on Exterior Widening

## SECTION A-A
3/4" = 1'-0"



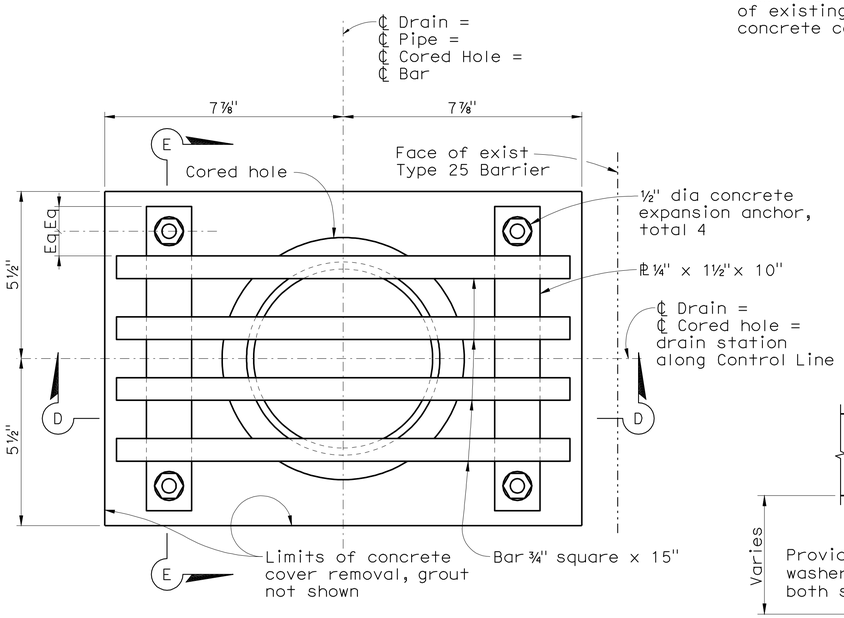

Deck Drain on Existing Right Bridge

## SECTION B-B
3/4" = 1'-0"

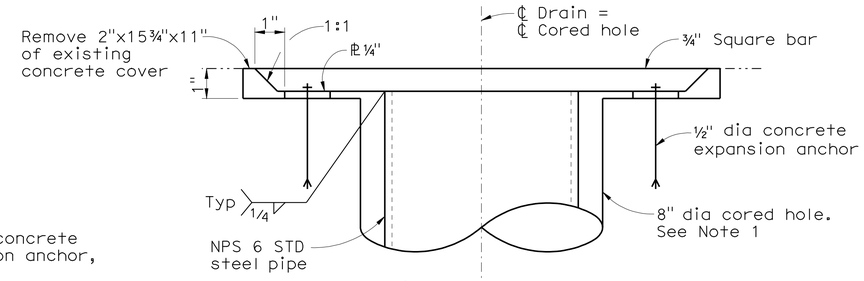



Deck Drain at Abutment

## SECTION C-C
3/4" = 1'-0"

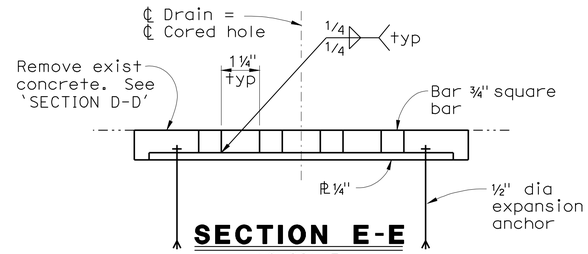



## DECK DRAIN - DETAIL 1
NO SCALE

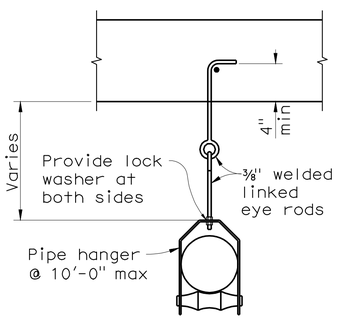



Deck Drain Notes:
1. Field locate drain to minimize damage to exist overhang top mat reinf.

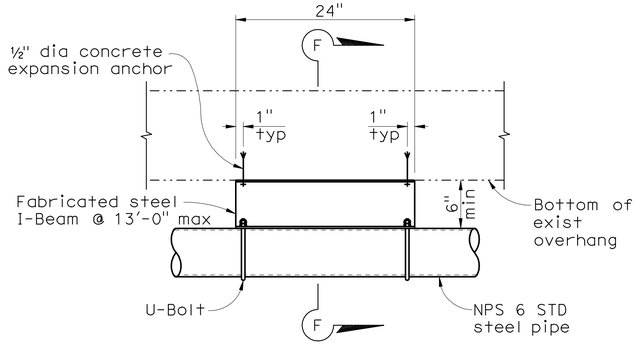
## SECTION D-D
NO SCALE



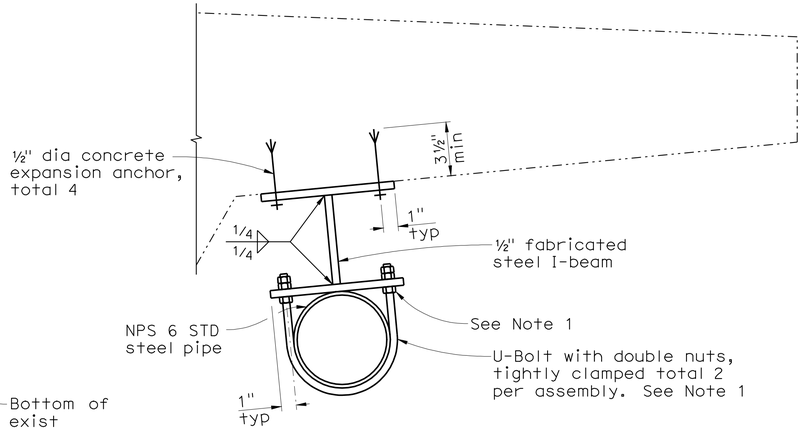

## SECTION E-E
NO SCALE




## DETAIL 2
NO SCALE




## PIPE SUPPORT ASSEMBLY - DETAIL 3
NO SCALE




Pipe Support Assembly Note:
1. At pipe support assemblies immediately adjacent to expansion coupling, provide additional set of nuts and loosely clamp to provide 6mm clearance between pipe and P12.7, see 'SPAN 4 PARTIAL PLAN' for expansion coupling location.

## SECTION F-F
NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

CU 06240
EA 0G4701

| BRIDGE NO. | 29-0226 |
|---|---|
| POST MILES | 29.83 |

# EBMUD AQUEDUCT UC (WIDEN)
# DECK DRAIN DETAILS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/4/09 | 1/15/10 | 4/23/10 | 5/28/10 | 6/11/10 | 7/1/10 | 7/28/10

SHEET 24 OF 34

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILE => 29-0226-s-ddet01.dgn

USERNAME => rtrstrk DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 17:03

(20060485230) 20060485

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1110 | 1132 |

REGISTERED CIVIL ENGINEER — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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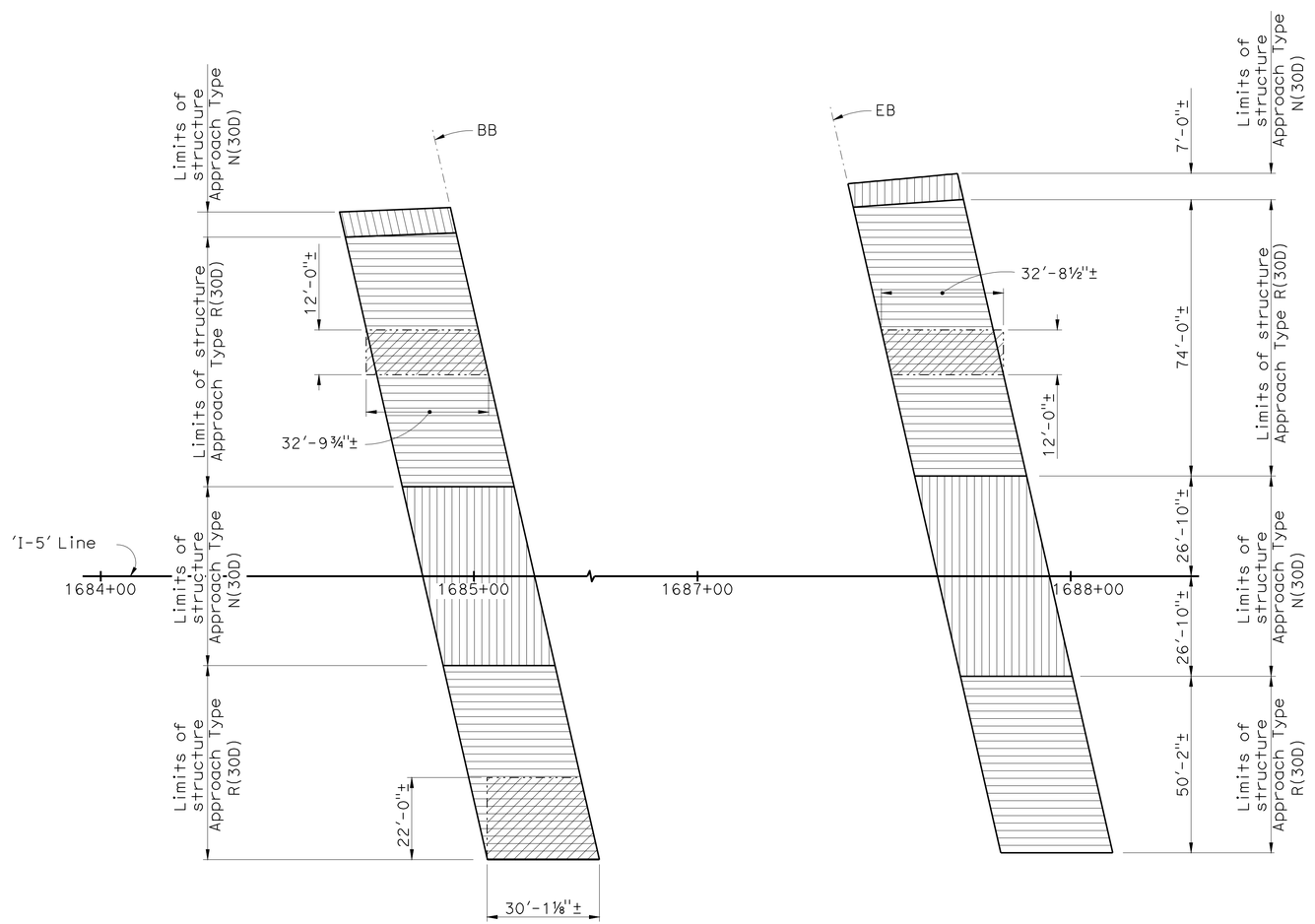
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126




## STRUCTURE APPROACH PLAN

1" = 20'

Notes:

1. Indicates limits of remove existing approach slab
2. Indicates Pay Limits of Structure Approach Slab Type N(30D)
3. Indicates Pay Limits of Structure Approach Slab Type R(30D)
4. For details not shown, see 'STRUCTURE APPROACH TYPE R(30D)' and 'STRUCTURE APPROACH TYPE N(30D) sheets.
5. Longitudinal construction joints shall be at lane lines as required for roadway staging, see Road Plans. See 'STRUCTURE APPROACH' sheets for details.

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

DESIGN OVERSIGHT John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# LIMITS OF STRUCTURE APPROACH

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 25 OF 34

FILE => 29-0226-v-lsad.dgn

USERNAME => tirstrk DATE PLOTTED => 13-OCT-2010 TIME PLOTTED => 17:04

2006048 (20060485240)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1111 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

REGISTERED PROFESSIONAL ENGINEER — RONALD L OEN — No. 46945 — Exp.9/30/11 — CIVIL — STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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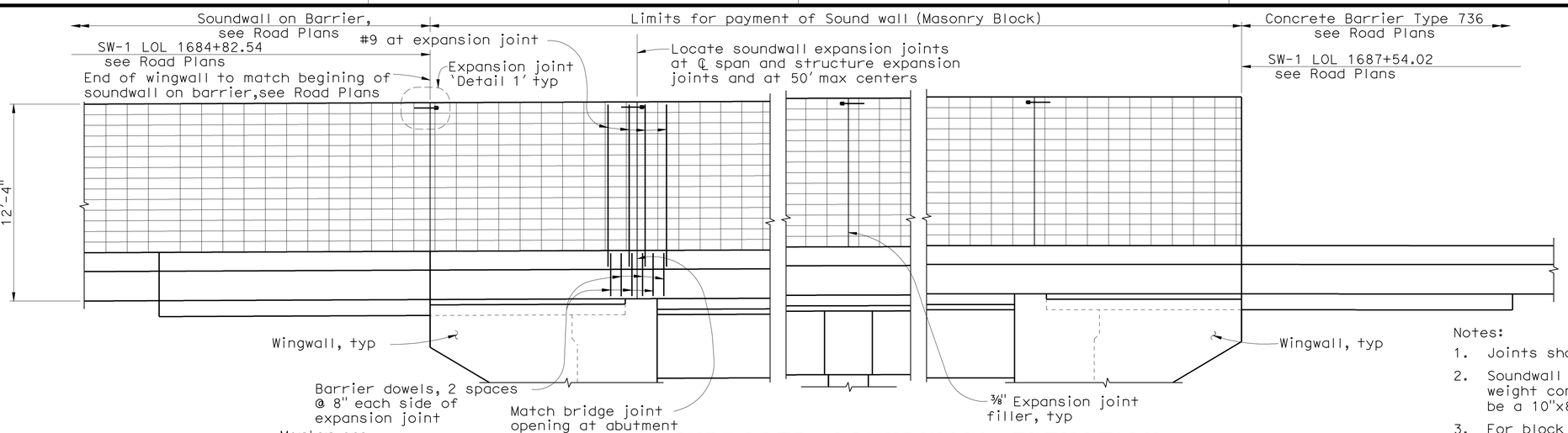
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

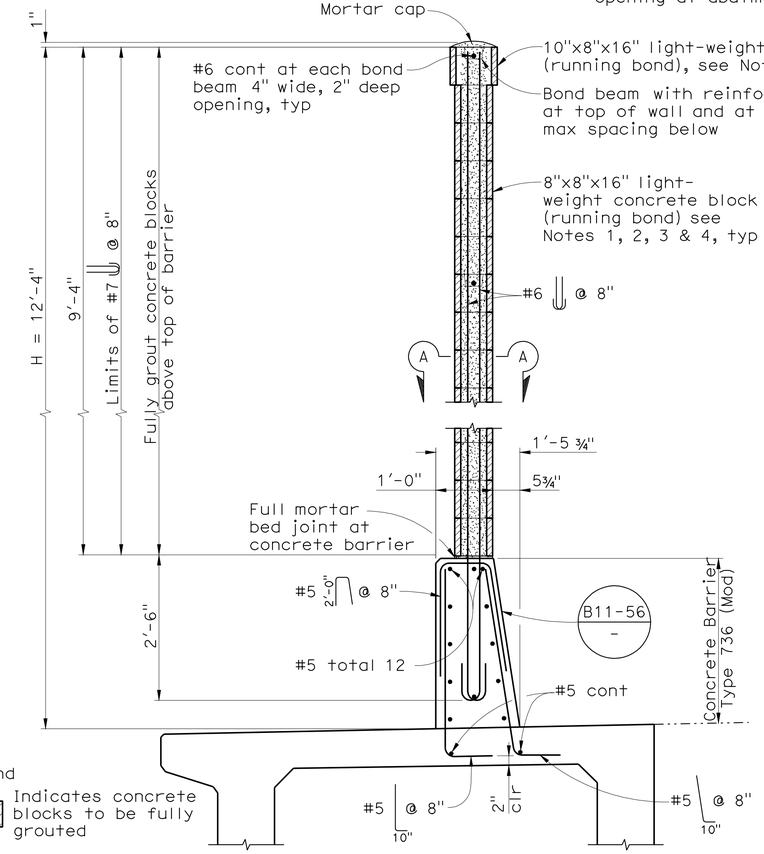



## MIRRORED SOUNDWALL ELEVATION

1/4" = 1'-0"

Notes:

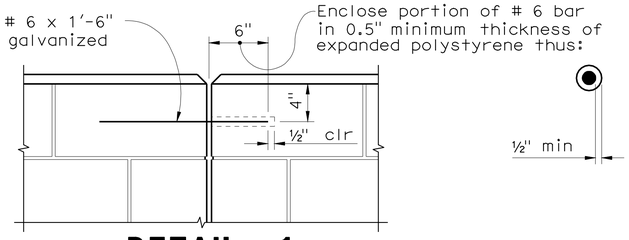
1. Joints shall be tooled concave
2. Soundwall shall be constructed with 8" x 8" x 16" light weight concrete block (running bond), except top block shall be a 10"x8"x16" light-weight concrete block
3. For block texture and pattern, see Road Plans
4. Fulltime special inspection shall be performed during the construction of the soundwall



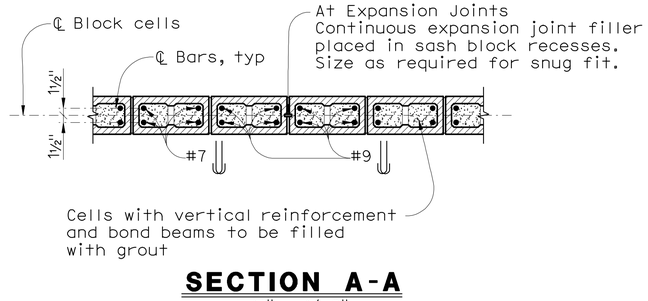

## TYPICAL SECTION

3/4" = 1'-0"

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material




## DETAIL 1




## SECTION A-A

3/4" = 1'-0"

## DESIGN NOTES

**DESIGN**

Uniform Building Code,1997 Edition and the Bridge Design Specifications.

**DESIGN WIND LOAD**

37 PSF

**DESIGN SEISMIC LOAD**

2.0 Dead load

**REINFORCED CONCRETE**

f'c = 3250 PSI
fy = 60 KSI

**CONCRETE MASONRY**

**HIGH STRENGTH**

f'm = 2500 PSI
$f_b$ = 830 PSI
fs = 24000 PSI
n = 15.5

**LOAD FACTORS AND LOAD COMBINATIONS**

Working Stress Design ( WSD ) — Percentage of unit stress

| | |
|---|---|
| Group 1: D + E + SC | 100% |
| Group 2: D + W + SC + E | 100% |
| Group 3: D + 0.71 EQD + E | 100% |

Where:

D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load

Load Factor Design ( LFD )

Group A: $\beta$D+1.7 E+1.7 SC
Group B: $\beta$D+1.7 E+1.3 W
Group C: $\beta$D+1.3 E+1.0 EQE
Group D: $\beta$D+1.3 E+1.0 EQD
Group E: $\beta$D+1.1 E+ 0.85 (EQE+EQD)

Where : $\beta$ = 0.9 or 1.2, whichever controls in design
D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load
EQE = Seismic earth load

**STRENGTH REDUCTION FACTORS**

Reinforced concrete:
For flexure ——— Ø=0.90
For shear ——— Ø=0.85
Concrete masonry:
For flexure ———
For shear ——— Ø=0.80 / Ø=0.60
Foundations :
See "RETAINING WALL WITH SOUNDWALL" sheets.

John Fujimoto — DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | T. SWENSON | A. NOTARO |
| DETAILS | T. SWENSON | A. NOTARO |
| QUANTITIES | J. YIP | P. GONGIDI |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

| BRIDGE NO. | POST MILES |
|---|---|
| 29-0226 | 29.83 |

# EBMUD AQUEDUCT UC (WIDEN)

## SOUNDWALL DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

FILE => 29-0226-t-swdet.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/4/09 | 1/15/10 | 4/23/10 | 5/28/10 | 6/11/10 | 7/1/10 | 7/28/10

SHEET 26 OF 34

USERNAME => ttrimguye DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:01

2006048 (20060485250)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1112 | 1132 |

7/28/10
REGISTERED CIVIL ENGINEER — DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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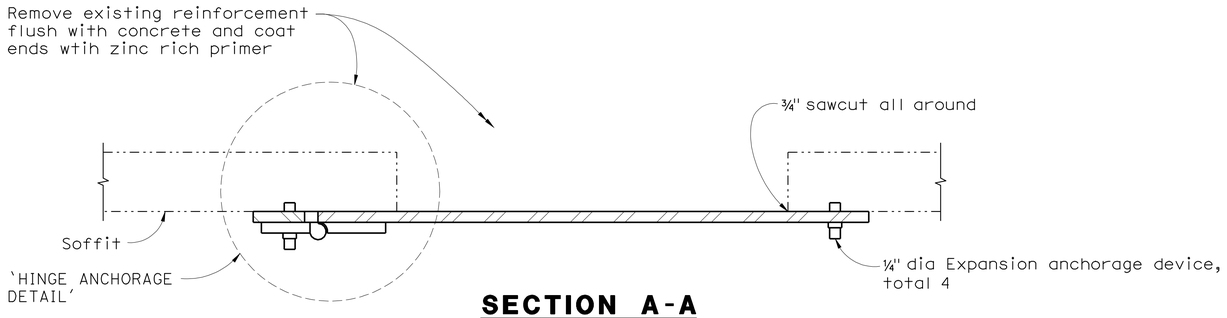
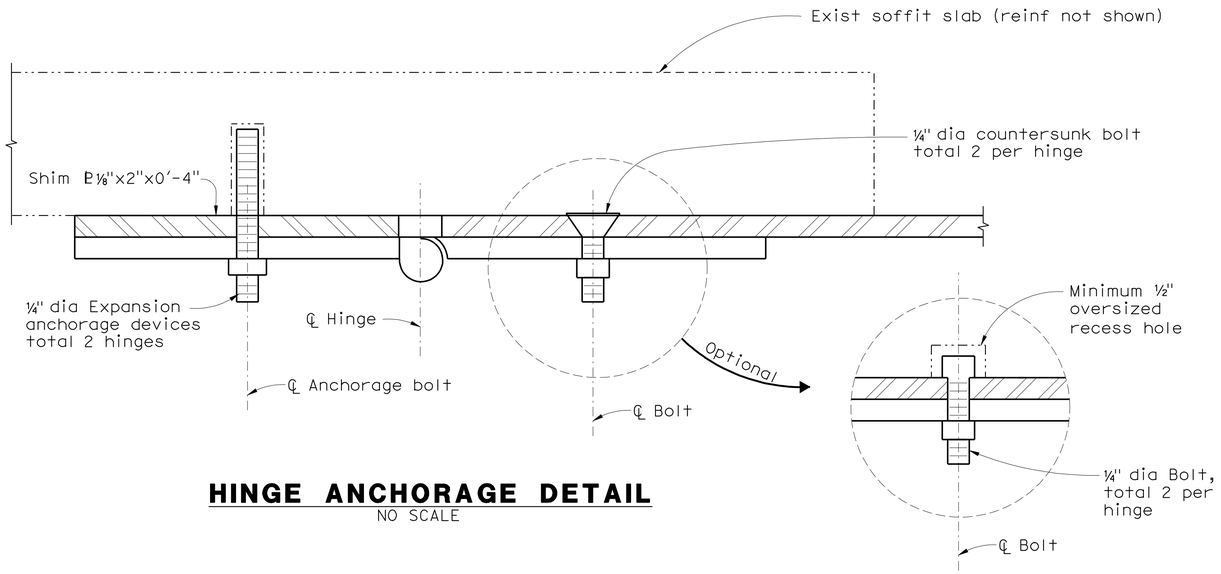
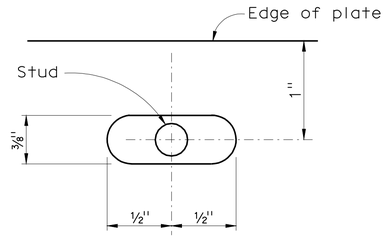
BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126




## SECTION A-A
NO SCALE

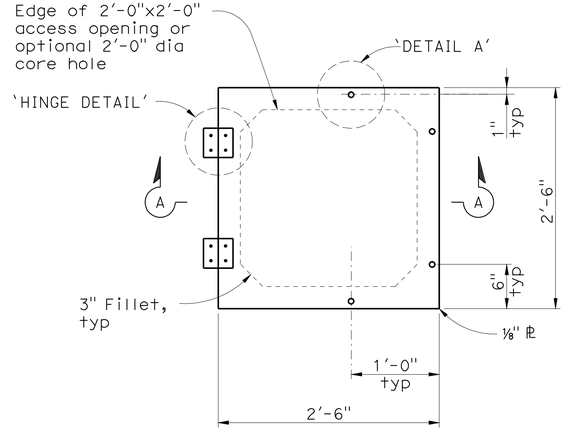



## HINGE ANCHORAGE DETAIL
NO SCALE

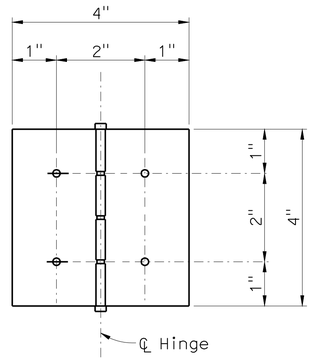



## DETAIL A
NO SCALE

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material




## PLAN
NO SCALE




Notes:
1. Non-removable pin in hinge.
2. Hinge assembly to be galvanized, brass or stainless steel.
3. Use thread locking system for all hinge nuts.
4. Hinge assembly to be minimum ⅛" thick.

## HINGE DETAIL
NO SCALE

## SOFFIT ACCESS DOOR ASSEMBLY
NO SCALE

Note: Soffit access door opening direction to be determined by the Engineer.

John Fujimoto
DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

| | | | |
|---|---|---|---|
| DESIGN | BY T. SWENSON | CHECKED A. NOTARO | |
| DETAILS | BY T. SWENSON | CHECKED A. NOTARO | |
| QUANTITIES | BY J. YIP | CHECKED P. GONGIDI | |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

JOHN A. ALCIATI
PROJECT ENGINEER

CU 06240
EA 0G4701

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# SOFFIT OPENINGS

DESIGN DETAIL SHEET (ENGLISH) (REV. 6-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 5/28/10 6/11/10 7/28/10

SHEET 27 OF 34

FILE => 29-0226-u-sodet01.dgn

USERNAME => trmguye DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:02

2006048 (2006048526C)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1113 | 1132 |

7/28/10
REGISTERED CIVIL ENGINEER

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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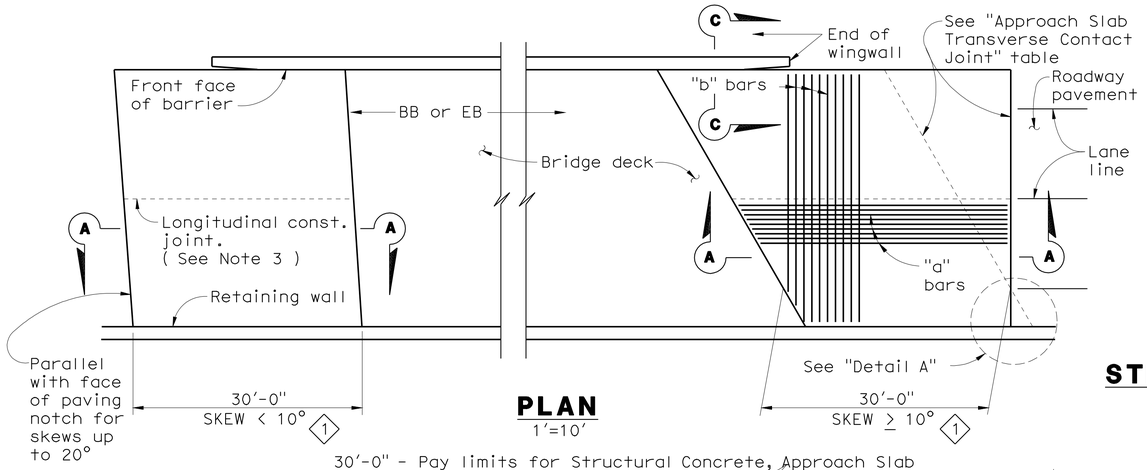
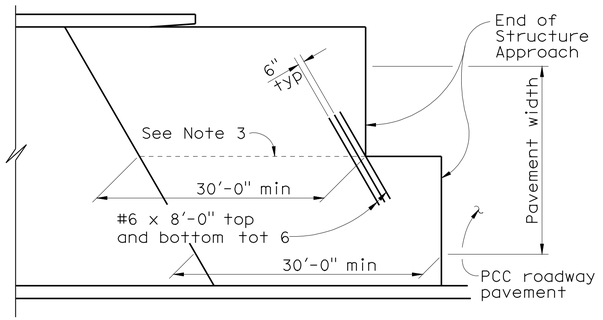
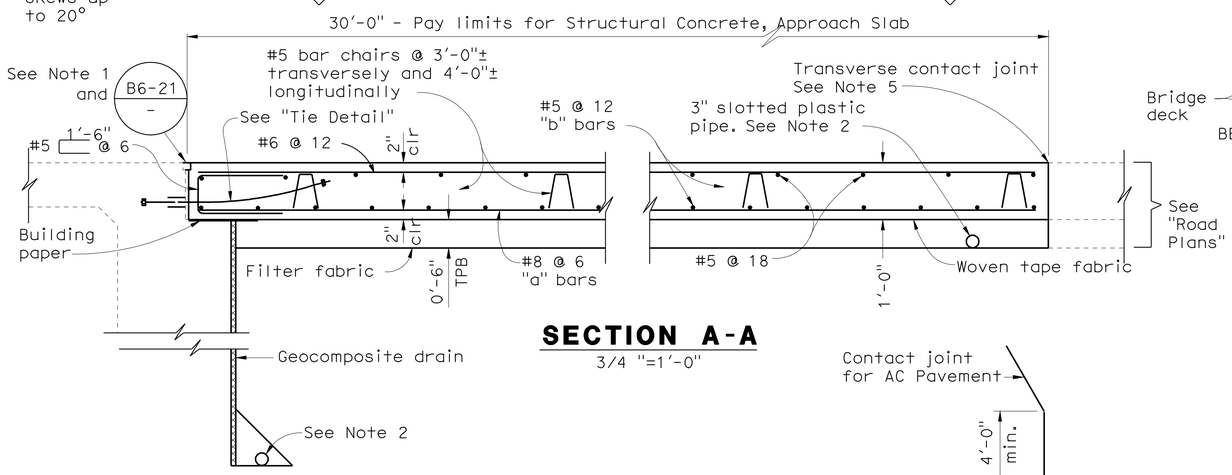
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126




## PLAN
1'=10'



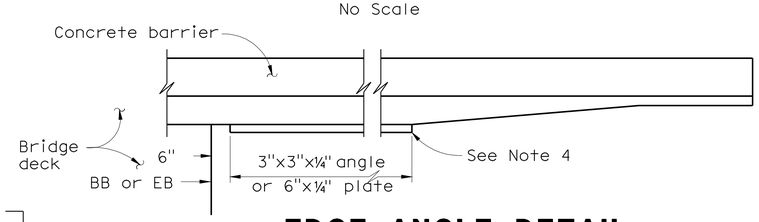

## STRUCTURE APPROACH - END STAGGER DETAIL
No Scale



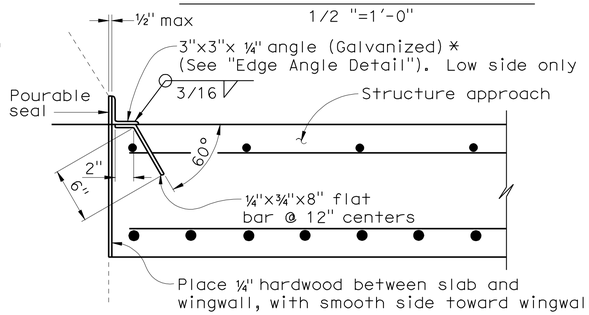

## SECTION A-A
3/4 "=1'-0"



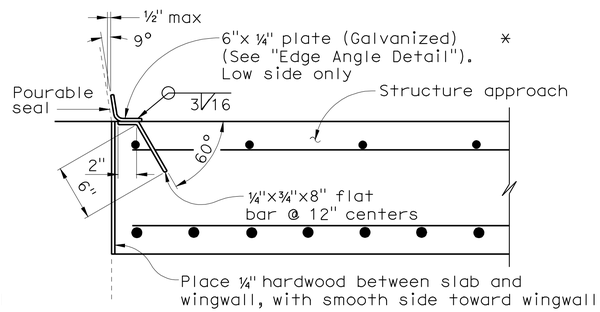

## DETAIL A
No Scale



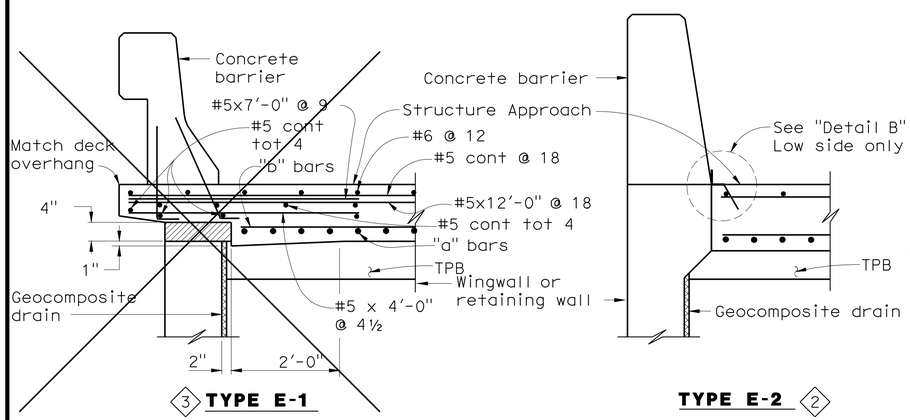

## EDGE ANGLE DETAIL
1/2 "=1'-0"




**(TO*BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)**



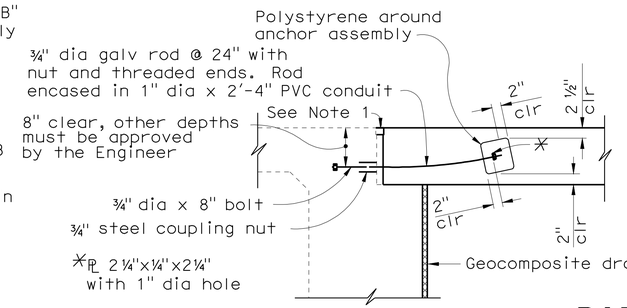

**(TO*BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**



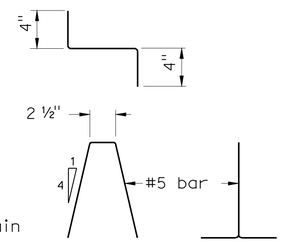

③ **TYPE E-1**

**TYPE E-2** ②

## SECTION C-C
3/4"=1'-0"
( Type E-1 to be used,unless otherwise shown on plans )




## TIE DETAIL




## BAR CHAIR DETAIL
1 1/2 "=1'-0"

## DETAIL B
1 1/2 "=1'-0"

**APPROACH SLAB TRANSVERSE CONTACT JOINT**

| APPROACH SKEW | WITH AC ROADWAY PAVEMENT | WITH PCC ROADWAY PAVEMENT |
|---|---|---|
| < 10° | Parallel with face of paving notch | Parallel with face of paving notch |
| 20° - 45° | Parallel with face of P N use (Detail A) | Stagger lines 24' to 36' apart |
| > 45° | Parallel with face of P N use (Detail A) | Stagger at each lane line |

**NOTES:**

1. For details not noted or shown,see Structure Plans.
2. For drainage details, see "Structure Approach Drainage Details" sheet.
3. Longitudinal construction joints,when permitted by the Engineer, shall be located on lane lines.
4. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable.
5. For transverse contact joint with new PCC paving, refer to Standard Plan P10.
6. At the contractor's option,approach slab transverse reinforcement may be placed parallel with paving notch. Spacing of transverse reinforcement is measured along ℄ roadway.

▨ Polystyrene to be removed.

STANDARD DRAWING

FILE NO. xs3-180e

APPROVED BY M. Ha — RESPONSIBLE TECHNICAL SPECIALIST
APPROVAL DATE 8-12-08

RELEASED BY O. Alcantara — RESPONSIBLE OFFICE CHIEF
RELEASE DATE 8-12-08

① Revised detail ③ Detail not used
② Added detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

CU 06240
EA 0G4701

| BRIDGE NO. | EBMUD AQUEDUCT UC (WIDEN) |
|---|---|
| 29-0226 | |
| POST MILES | STRUCTURE APPROACH TYPE N(30D) |
| 29.83 | |

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 28 OF 34

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

USERNAME => trmnguye

29-0226-v-sad01.dgn

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1114 | 1132 |

7/28/10
REGISTERED CIVIL ENGINEER

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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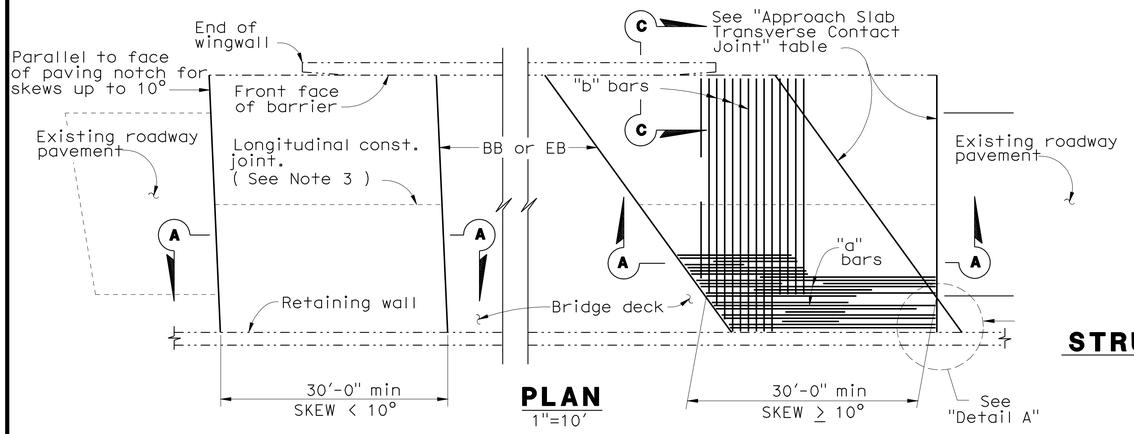
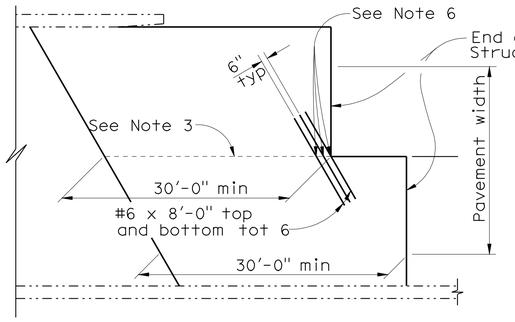
SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 E. WEBER AVENUE
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

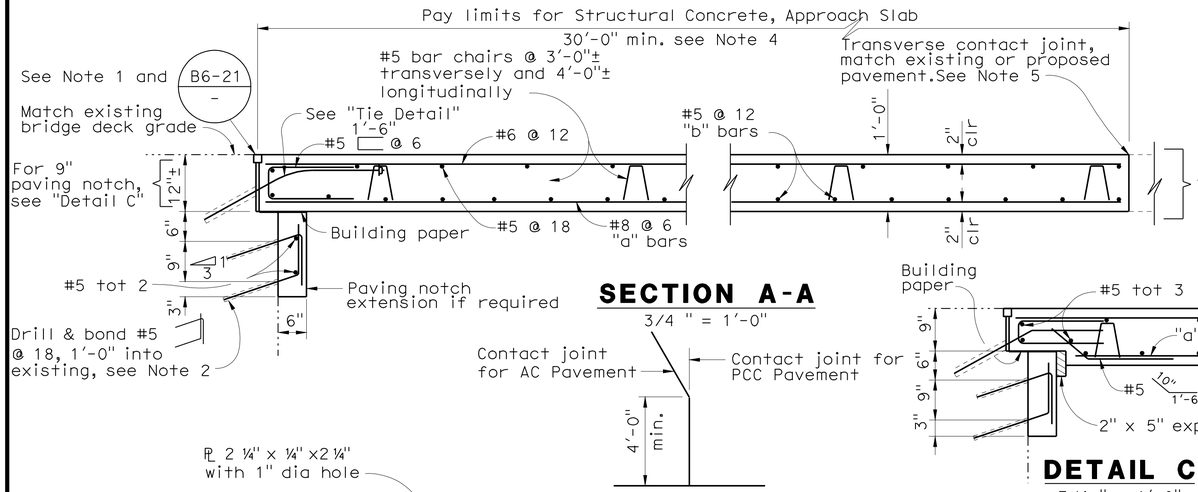



## PLAN
1"=10'




## STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

| APPROACH SLAB TRANSVERSE CONTACT JOINT | | |
|---|---|---|
| APPROACH SKEW | WITH AC ROADWAY PAVEMENT | WITH PCC ROADWAY PAVEMENT |
| < 10° | Parallel with face of paving notch | Parallel with face of paving notch |
| 10° - 45° | Parallel with face of P N use (Detail A) | Stagger lines 24' to 36' apart |
| > 45° | Parallel with face of P N use (Detail A) | Stagger at each lane line |




## SECTION A-A
3/4 " = 1'-0"

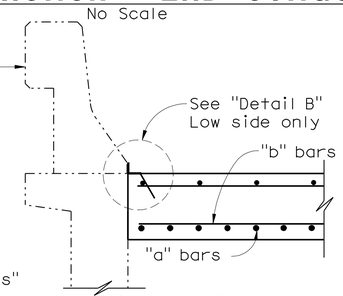



## DETAIL A
No Scale

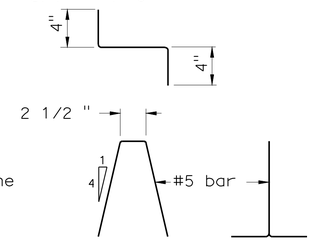



## DETAIL C
3/4 " = 1'-0"

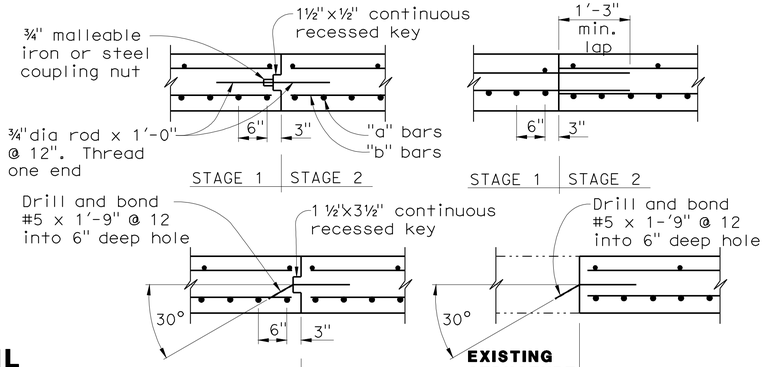
NOTE: For details not shown,see "Section A-A".



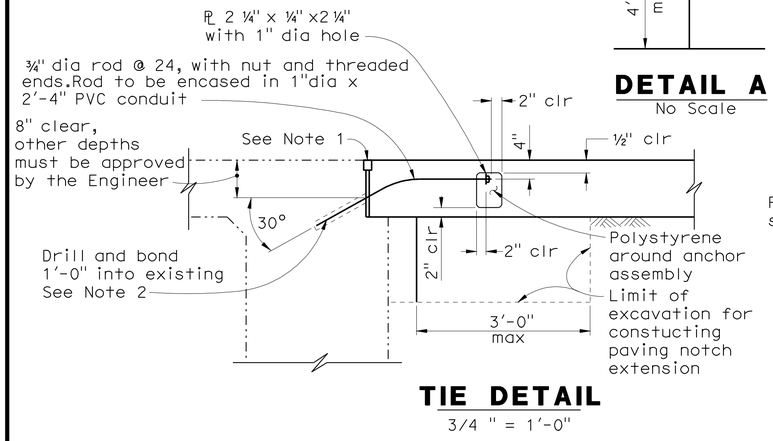

## SECTION C-C
3/4 " = 1'-0"



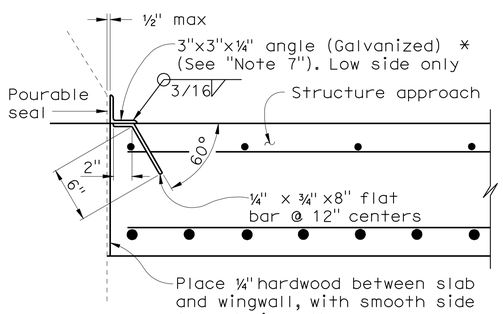

## BAR CHAIR DETAIL
1 1/2 " = 1'-0"



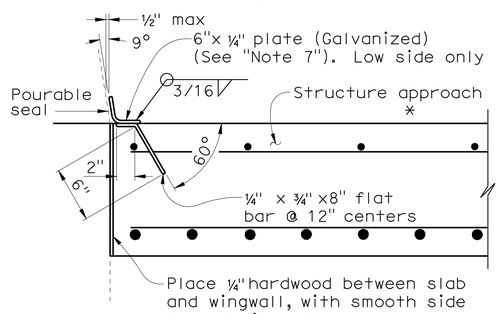

## LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
3/4 " = 1'-0"




## TIE DETAIL
3/4 " = 1'-0"




*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER)




*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

## DETAIL B
1 1/2 " = 1'-0"

**NOTES:**

1. For details not shown or noted,see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint,when required.
2. Space to avoid existing prestress anchorages and main reinforcement.
3. Longitudinal construction joints,when permitted by the Engineer,shall be located on lane lines.
4. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
5. For transverse contact joint with new PCC paving. refer to Standard Plan P10.
6. Couplers are required for stage construction.
7. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material

| STANDARD DRAWING | | | | |
|---|---|---|---|---|
| RELEASE DATE 3/14/05 | DESIGN | BY R. OEN | CHECKED M. THOMAS | RELEASED BY |
| FILE NO. xs3-140e | DETAILS | BY R. YEE | CHECKED E. THORKILDSEN | OFFICE CHIEF |
| | SUBMITTED | BY M. HA | DRAWING DATE 8/92 | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

BRIDGE NO. 29-0226
POST MILE 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# STRUCTURE APPROACH TYPE R (30D

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

SHEET 29 OF 34

USERNAME => trmnguye
29-0226-v-sad02.dgn

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1115 | 1132 |

7/28/10
REGISTERED CIVIL ENGINEER

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER RONALD L OEN No. 46945 Exp.9/30/11 CIVIL STATE OF CALIFORNIA

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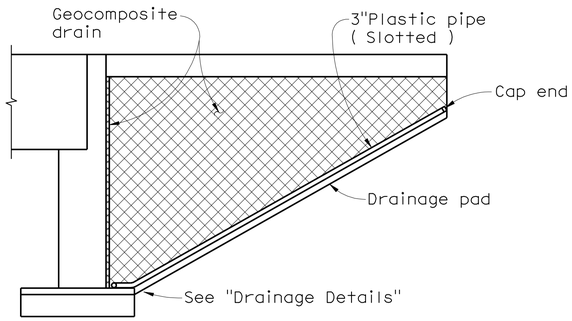
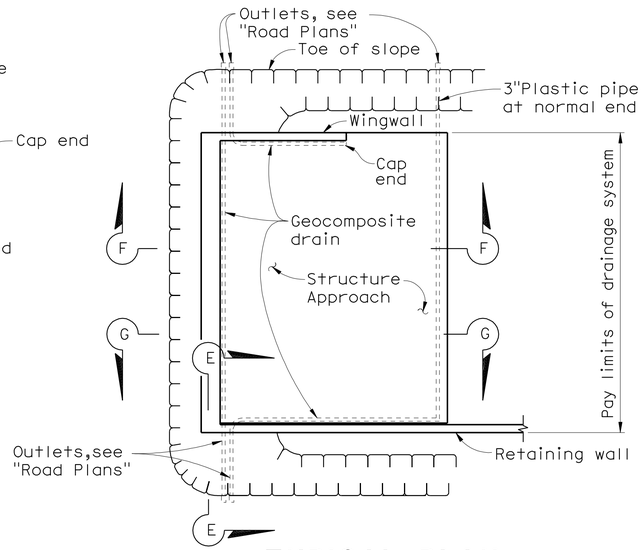
555 E. WEBER AVENUE
STOCKTON, CA 95202

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

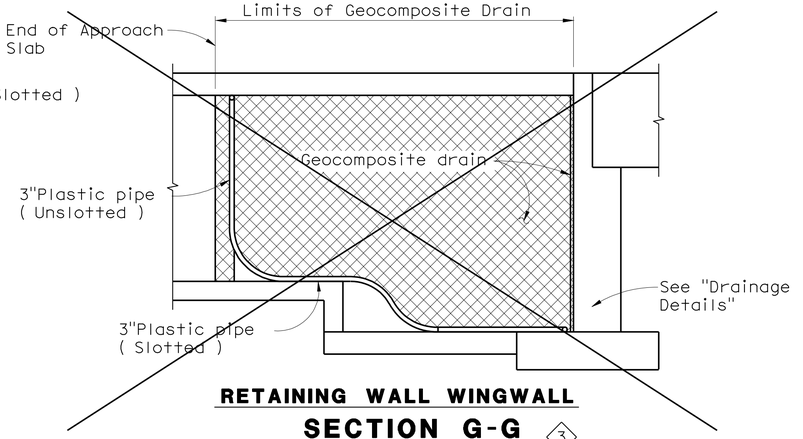



**CANTILEVER WINGWALL**
**SECTION F-F**
1/4" = 1'-0"

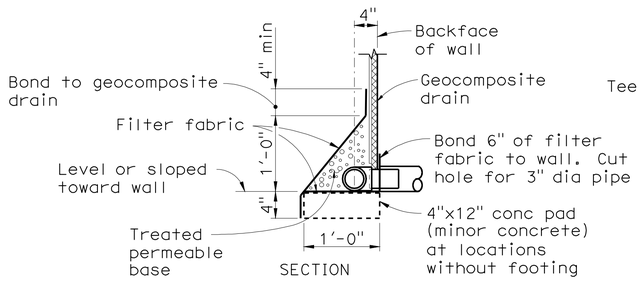


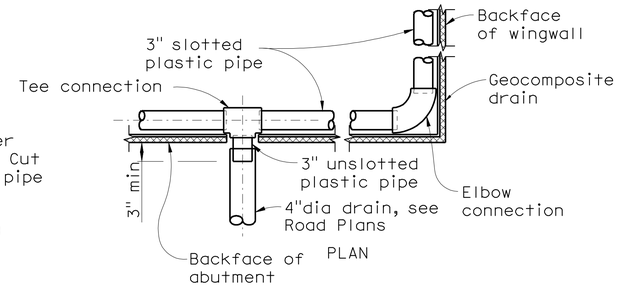

**TYPICAL PLAN**
1" = 10'

✳For pipe layout at staggered end,see "Detail B".



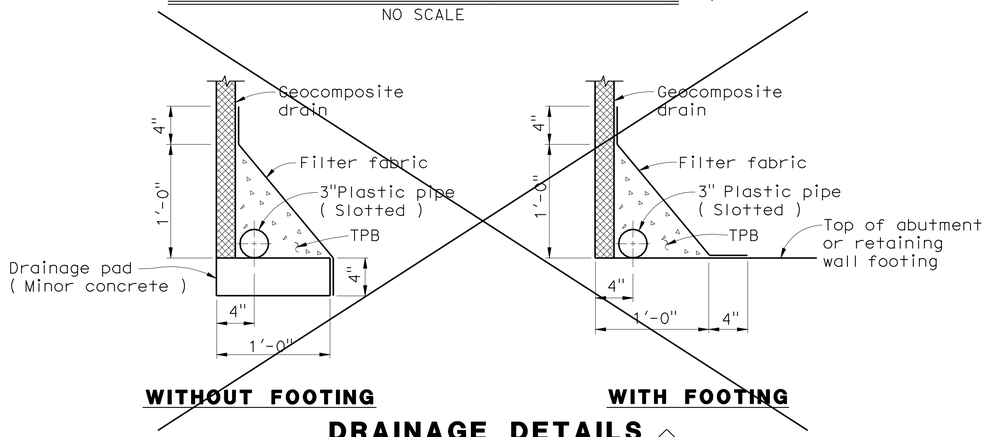

**RETAINING WALL WINGWALL**
**SECTION G-G** ◇3
1/4" = 1'-0"



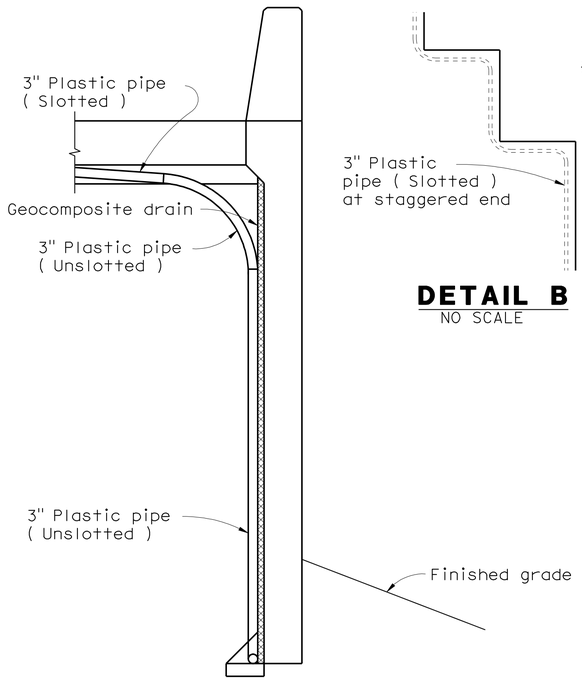




Note:
Geocomposite drain, treated permeable base, and 3" dia slotted plastic pipe continuous behind abutment and wingwalls. Provide 'tee' connection at each 4" dia drain.

**ABUTMENT DRAINAGE DETAILS** ◇2
NO SCALE




**DRAINAGE DETAILS** ◇3
1 1/2" = 1'-0"



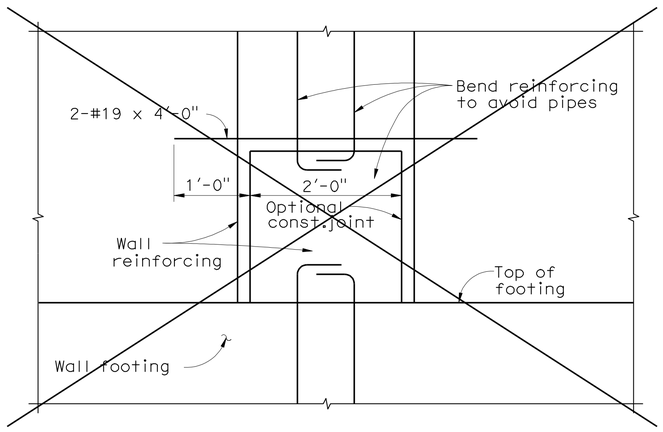

**SECTION E-E** ◇1
1/2" = 1'-0"

Note:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material




**DETAIL B**
NO SCALE

Note: Bends and junctions in 3" plastic pipe are 30" radius min.




**SECTION H-H** ◇3
1" = 1'-0"

| STANDARD DRAWING | | | | |
|---|---|---|---|---|
| RELEASE DATE 4/23/98 | DESIGN | BY R. OEN | CHECKED M. THOMAS | RELEASED BY |
| FILE NO. xs3-110e | DETAILS | BY R. YEE | CHECKED E. THORKILDSEN | OFFICE CHIEF |
| | SUBMITTED | BY M. HA | DRAWING DATE 4/98 | |

◇1 Revised detail ◇3 Detail not used
◇2 Added detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

| BRIDGE NO. | 29-0226 |
|---|---|
| POST MILE | 29.83 |

# EBMUD AQUEDUCT UC (WIDEN)
## STRUCTURE APPROACH DRAINAGE DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/4/09 1/15/10 4/23/10 5/28/10 6/11/10 7/28/10

| SHEET | OF |
|---|---|
| 30 | 34 |

USERNAME => trmnguye
29-0226-v-sadd01.dgn

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1116 | 1132 |

Gary Parikh 7/28/10
GEOTECHNICAL PROFESSIONAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/11 — GEOTECHNICAL — STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

## CEMENTATION

| Description | Criteria |
|---|---|
| Weak | Crumbles or breaks with handling or little finger pressure. |
| Moderate | Crumbles or breaks with considerable finger pressure. |
| Strong | Will not crumble or break with finger pressure. |

## BOREHOLE IDENTIFICATION

| Symbol | Hole Type | Description |
|---|---|---|
| Size | A | Auger Boring |
| Size | R<br>P | Rotary drilled boring<br>Rotary percussion boring (air) |
| Size | R | Rotary drilled diamond core |
| Size | HD<br>HA | Hand driven (1-inch soil tube)<br>Hand Auger |
| ● | D | Dynamic Cone Penetration Boring |
| ▲ | CPT | Cone Penetration Test (ASTM D 5778-95) |
| ⬚ | O | Other |

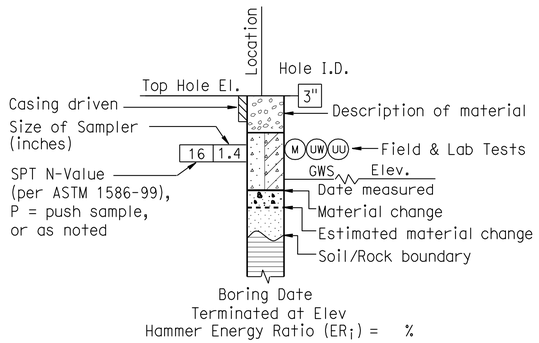
**Note: Size in inches.**

## CONSISTENCY OF COHESIVE SOILS

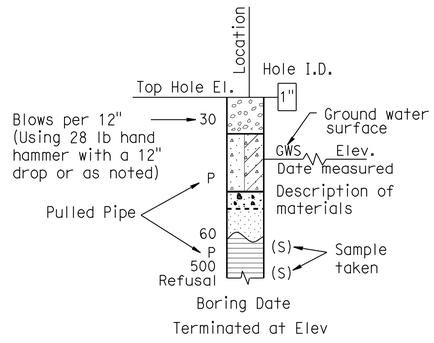
| Description | Unconfined Compressive Strength (tsf) | Pocket Penetrometer Measurement (tsf) | Torvane Measurement (tsf) | Field Approximation |
|---|---|---|---|---|
| Very Soft | < 0.25 | < 0.25 | < 0.12 | Easily penetrated several inches by fist |
| Soft | 0.25 to 0.50 | 0.25 to 0.50 | 0.12 to 0.25 | Easily penetrated several inches by thumb |
| Medium Stiff | 0.50 to 1.0 | 0.50 to 1.0 | 0.25 to 0.50 | Penetrated several inches by thumb with moderate effort |
| Stiff | 1 to 2 | 1 to 2 | 0.50 to 1.0 | Readily indented by thumb but penetrated only with great effort |
| Very Stiff | 2 to 4 | 2 to 4 | 1.0 to 2.0 | Readily indented by thumbnail |
| Hard | > 4.0 | > 4.0 | > 2.0 | Indented by thumbnail with difficulty |

## PLASTICITY OF FINE-GRAINED SOILS

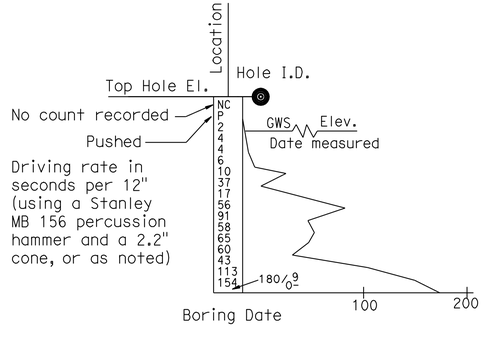
| Description | Criteria |
|---|---|
| Nonplastic | A 1/8-inch thread cannot be rolled at any water content. |
| Low | The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit. |
| Medium | The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit. |
| High | It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit. |



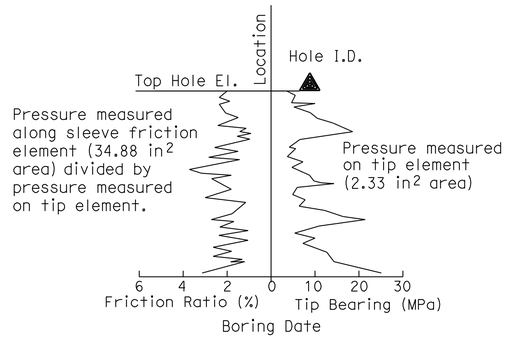

**ROTARY BORING**




**HAND BORING**




**DYNAMIC CONE PENETRATION BORING**




**CONE PENETRATION TEST (CPT) SOUNDING**

John Fujimoto
DESIGN OVERSIGHT John Fujimoto
8-2-10
SIGN OFF DATE

| | |
|---|---|
| DRAWN BY | O. GOUTHIER |
| CHECKED BY | D. WANG |

S. DUDDU - A. R. BHARADWAJ
FIELD INVESTIGATION BY:
DATE: MARCH 2009 - APRIL 2009

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

| | |
|---|---|
| BRIDGE NO. | 29-0226 |
| POST MILES | 29.83 |

# EBMUD AQUEDUCT UC (WIDEN)
## SOIL LEGEND 1 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/16/09 | 12/04/09 | 01/15/10 | 04/28/10 | 06/11/10 | 7/28/10

SHEET 31 OF 34

FILE => 29-0226-z-1tb01.dgn

USERNAME => rfriend DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 07:59

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

## GROUP SYMBOLS AND NAMES

| Graphic/Symbol | Group Names | Graphic/Symbol | Group Names |
|---|---|---|---|
| GW | Well-graded GRAVEL<br>Well-graded GRAVEL with SAND | CL | Lean CLAY<br>Lean CLAY with SAND<br>Lean CLAY with GRAVEL<br>SANDY lean CLAY<br>SANDY lean CLAY with GRAVEL<br>GRAVELLY lean CLAY<br>GRAVELLY lean CLAY with SAND |
| GP | Poorly graded GRAVEL<br>Poorly graded GRAVEL with SAND | | |
| GW-GM | Well-graded GRAVEL with SILT<br>Well-graded GRAVEL with SILT and SAND | CL-ML | SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
| GW-GC | Well-graded GRAVEL with CLAY (or SILTY CLAY)<br>Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND) | | |
| GP-GM | Poorly graded GRAVEL with SILT<br>Poorly graded GRAVEL with SILT and SAND | ML | SILT<br>SILT with SAND<br>SILT with GRAVEL<br>SANDY SILT<br>SANDY SILT with GRAVEL<br>GRAVELLY SILT<br>GRAVELLY SILT with SAND |
| GP-GC | Poorly graded GRAVEL with CLAY (or SILTY CLAY)<br>Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND) | | |
| GM | SILTY GRAVEL<br>SILTY GRAVEL with SAND | OL | ORGANIC lean CLAY<br>ORGANIC lean CLAY with SAND<br>ORGANIC lean CLAY with GRAVEL<br>SANDY ORGANIC lean CLAY<br>SANDY ORGANIC lean CLAY with GRAVEL<br>GRAVELLY ORGANIC lean CLAY<br>GRAVELLY ORGANIC lean CLAY with SAND |
| GC | CLAYEY GRAVEL<br>CLAYEY GRAVEL with SAND | | |
| GC-GM | SILTY, CLAYEY GRAVEL<br>SILTY, CLAYEY GRAVEL with SAND | OL | ORGANIC SILT<br>ORGANIC SILT with SAND<br>ORGANIC SILT with GRAVEL<br>SANDY ORGANIC SILT<br>SANDY ORGANIC SILT with GRAVEL<br>GRAVELLY ORGANIC SILT<br>GRAVELLY ORGANIC SILT with SAND |
| SW | Well-graded SAND<br>Well-graded SAND with GRAVEL | | |
| SP | Poorly graded SAND<br>Poorly graded SAND with GRAVEL | CH | Fat CLAY<br>Fat CLAY with SAND<br>Fat CLAY with GRAVEL<br>SANDY fat CLAY<br>SANDY fat CLAY with GRAVEL<br>GRAVELLY fat CLAY<br>GRAVELLY fat CLAY with SAND |
| SW-SM | Well-graded SAND with SILT<br>Well-graded SAND with SILT and GRAVEL | | |
| SW-SC | Well-graded SAND with CLAY (or SILTY CLAY)<br>Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL) | MH | Elastic SILT<br>Elastic SILT with SAND<br>Elastic SILT with GRAVEL<br>SANDY elastic SILT<br>SANDY elastic SILT with GRAVEL<br>GRAVELLY elastic SILT<br>GRAVELLY elastic SILT with SAND |
| SP-SM | Poorly graded SAND with SILT<br>Poorly graded SAND with SILT and GRAVEL | | |
| SP-SC | Poorly graded SAND with CLAY (or SILTY CLAY)<br>Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL) | OH | ORGANIC fat CLAY<br>ORGANIC fat CLAY with SAND<br>ORGANIC fat CLAY with GRAVEL<br>SANDY ORGANIC fat CLAY<br>SANDY ORGANIC fat CLAY with GRAVEL<br>GRAVELLY ORGANIC fat CLAY<br>GRAVELLY ORGANIC fat CLAY with SAND |
| SM | SILTY SAND<br>SILTY SAND with GRAVEL | | |
| SC | CLAYEY SAND<br>CLAYEY SAND with GRAVEL | OH | ORGANIC elastic SILT<br>ORGANIC elastic SILT with SAND<br>ORGANIC elastic SILT with GRAVEL<br>SANDY ORGANIC elastic SILT<br>SANDY ORGANIC elastic SILT with GRAVEL<br>GRAVELLY ORGANIC elastic SILT<br>GRAVELLY ORGANIC elastic SILT with SAND |
| SC-SM | SILTY, CLAYEY SAND<br>SILTY, CLAYEY SAND with GRAVEL | | |
| PT | PEAT | OL/OH | ORGANIC SOIL<br>ORGANIC SOIL with SAND<br>ORGANIC SOIL with GRAVEL<br>SANDY ORGANIC SOIL<br>SANDY ORGANIC SOIL with GRAVEL<br>GRAVELLY ORGANIC SOIL<br>GRAVELLY ORGANIC SOIL with SAND |
| | COBBLES<br>COBBLES and BOULDERS<br>BOULDERS | | |

## FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166)<br>Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1117 | 1132 |

Gary Parikh 7/28/10
GEOTECHNICAL PROFESSIONAL DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/11 — GEOTECHNICAL — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*

SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

## APPARENT DENSITY OF COHESIONLESS SOILS

| Description | SPT $N_{60}$ (Blows / 12 inches) |
|---|---|
| Very loose | 0 - 4 |
| Loose | 5 - 10 |
| Medium Dense | 11 - 30 |
| Dense | 31 - 50 |
| Very Dense | > 50 |

## MOISTURE

| Description | Criteria |
|---|---|
| Dry | Absence of moisture, dusty, dry to the touch |
| Moist | Damp but no visible water |
| Wet | Visible free water, usually soil is below water table |

## PERCENT OR PROPORTION OF SOILS

| Description | Criteria |
|---|---|
| Trace | Particles are present but estimated to be less than 5% |
| Few | 5 to 10% |
| Little | 15 to 25% |
| Some | 30 to 45% |
| Mostly | 50 to 100% |

## PARTICLE SIZE

| Description | | Size |
|---|---|---|
| Boulder | | > 12" |
| Cobble | | 3" to 12" |
| Gravel | Coarse | 3/4" to 3" |
| | Fine | No. 4 to 3/4" |
| Sand | Coarse | No. 10 to No. 4 |
| | Medium | No. 40 to No. 10 |
| | Fine | No. 200 to No. 40 |

John Fujimoto 8-2-10
DESIGN OVERSIGHT John Fujimoto SIGN OFF DATE

DRAWN BY O. GOUTHIER
CHECKED BY D. WANG

S. DUDDU - A. R. BHARADWAJ
FIELD INVESTIGATION BY:
DATE: MARCH 2009 - APRIL 2009

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
## SOIL LEGEND 2 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/16/09 | 12/04/09 | 01/15/10 | 04/28/10 | 06/17/10 | 7/28/10

SHEET 32 OF 34

FILE => 29-0226-z-1tb02.dgn

USERNAME => ttreford DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1118 | 1132 |

BENCHMARK:
The horizontal coordinates values are in the California Coordinate System (CCS 83) Zone 3, Epoch Date 2007.00, in U.S. survey feet.
The vertical control values are based on the North American Vertical Datum of 1988 (NAVD88) in U.S. survey feet, height modernization survey station, (2007.00) and GEOID03 was used for the adjustment.

GEOTECHNICAL PROFESSIONAL — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/11 — GEOTECHNICAL — STATE OF CALIFORNIA

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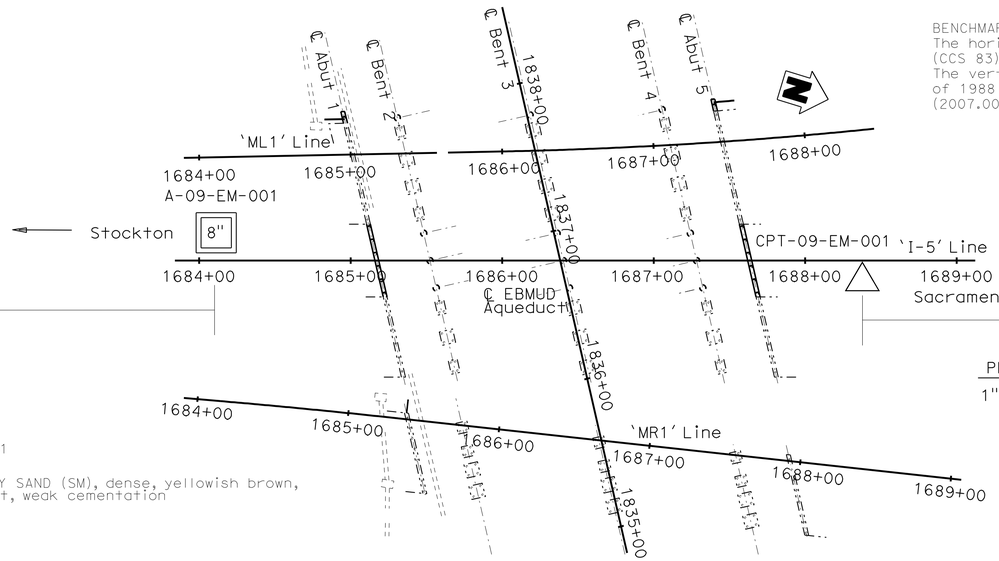
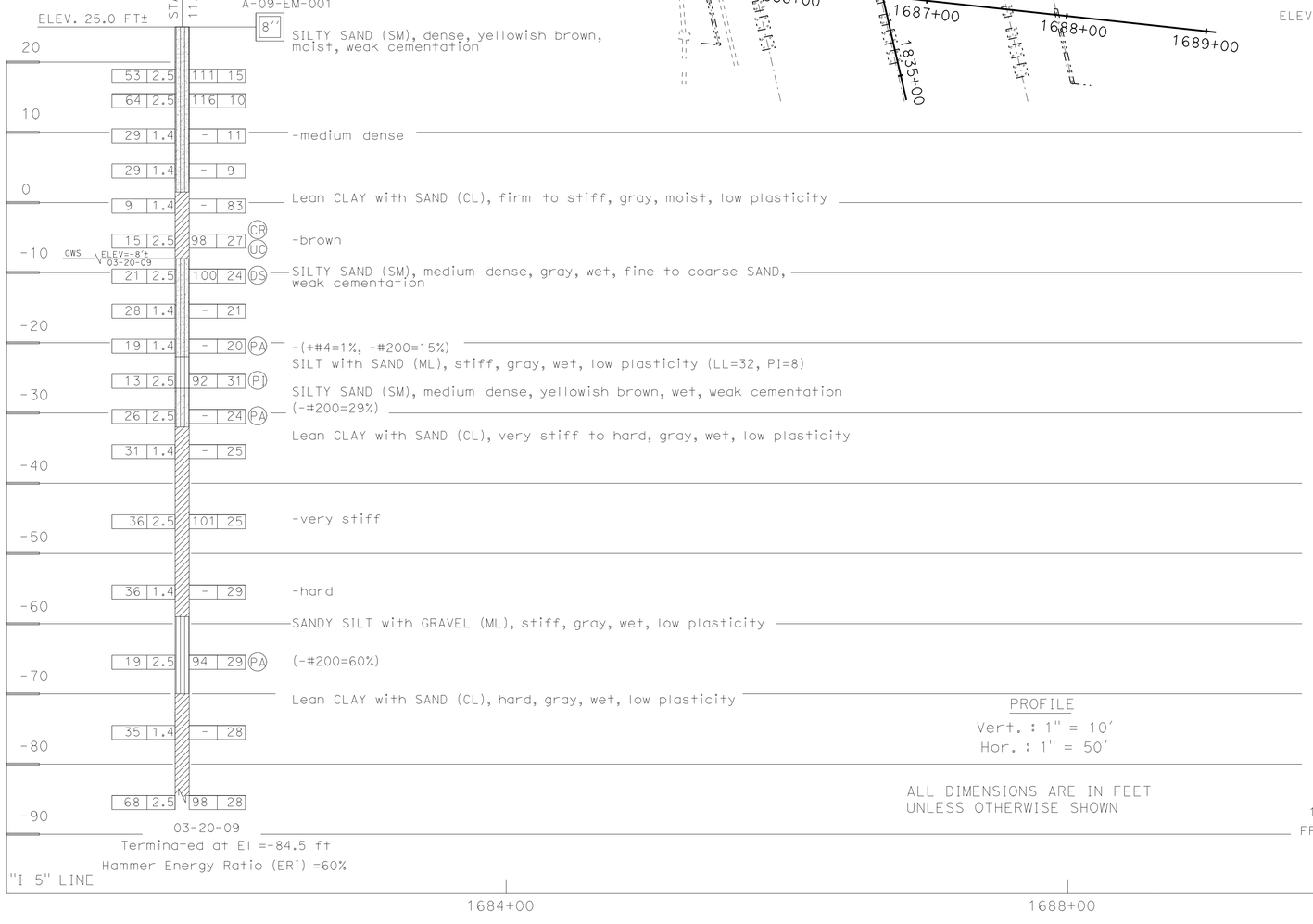
SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

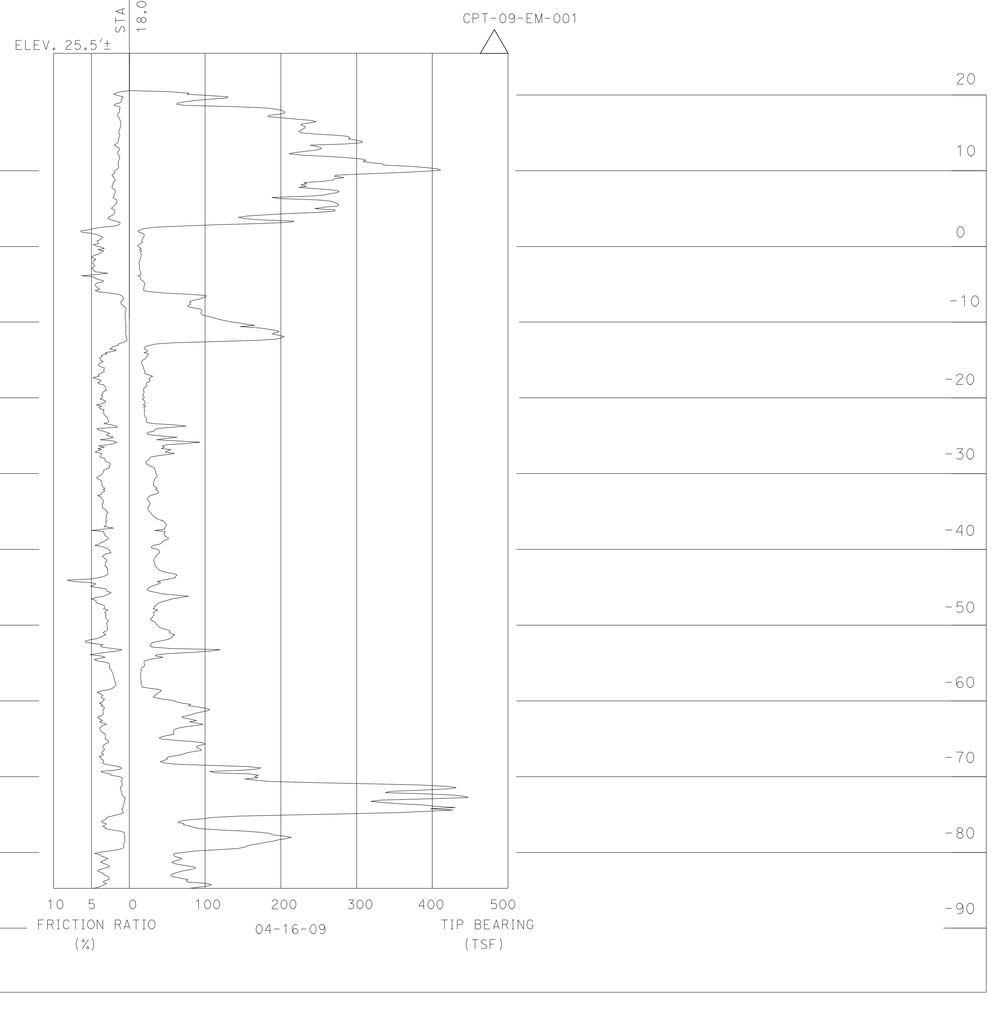



PLAN
1"=50'




PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

ALL DIMENSIONS ARE IN FEET
UNLESS OTHERWISE SHOWN




John Fujimoto — DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

DRAWN BY: O. GOUTHIER
CHECKED BY: D. WANG

S. DUDDU - A. R. BHARADWAJ
FIELD INVESTIGATION BY:
DATE: MARCH 2009 - APRIL 2009

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO. 29-0226
POST MILES 29.83

# EBMUD AQUEDUCT UC (WIDEN)
# LOG OF TEST BORINGS 1 OF 2

OGS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES: 10/16/09 12/04/09 01/15/10 04/28/10 06/15/10 7/28/10

SHEET 33 OF 34

FILE => 29-0226-z-1tb03.dgn

USERNAME => trlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

TO ACCOMPANY PLANS DATED 10-11-10

DIVISION OF ENGINEERING SERVICES – GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

| DIST. | COUNTY | ROUTE | POST MILES–TOTAL PROJECT | Sheet No. | Total Sheets |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1119 | 1132 |

REGISTERED CIVIL ENGINEER — DATE 7/28/10

# EBMUD AQUEDUCT UNDERCROSSING (WIDEN)

## LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

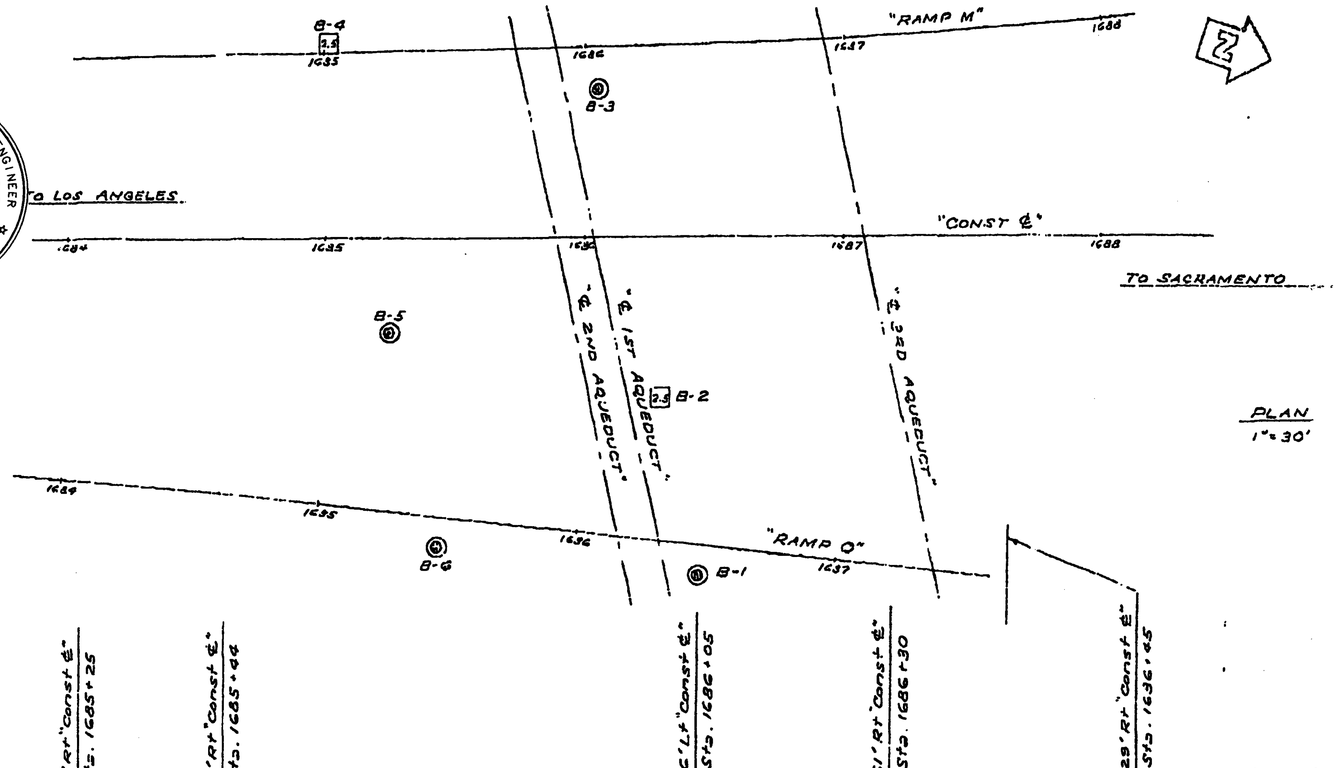
CU: 06240
EA: 0G4701

BRIDGE No. 29-0226

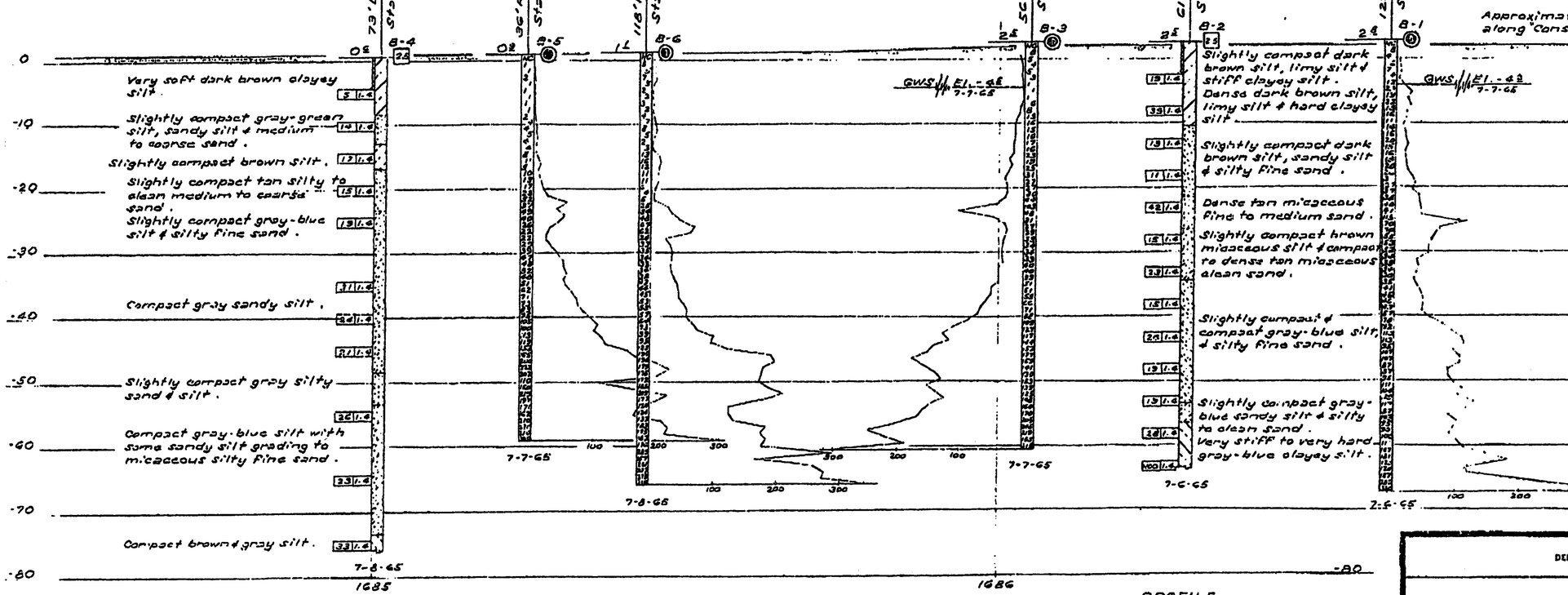
Sheet 34 of 34

REGISTERED PROFESSIONAL ENGINEER
GARY PARIKH
No. G.E. 666
Exp. 12/31/11
GEOTECHNICAL
STATE OF CALIFORNIA

BM "NO 5"
Bronze disc in PCC 100'± E "Const ℄" 1693+60
Elev. 193




PLAN
1"=30'

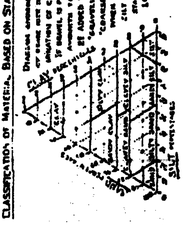



PROFILE
1"=10'

LEGEND OF EARTH MATERIALS

Gravel; Sand; Silt; Clay; Sandy Clay or Clayey Sand; Sandy Silt or Silty Sand; Silty Clay or Clayey Silt; Peat 75% Organic Matter; Fill Material; Igneous Rock; Sedimentary Rock; Metamorphic Rock

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS




NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

AS BUILT PLANS
Contract No. 10-080924
Date Completed

| Dist. | County | Route | P.M. | Sheet No. | Total Sheets |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.5/31.5 | 345 | 972 |

Caltrans Engineer — Date Approved September 5, 1967

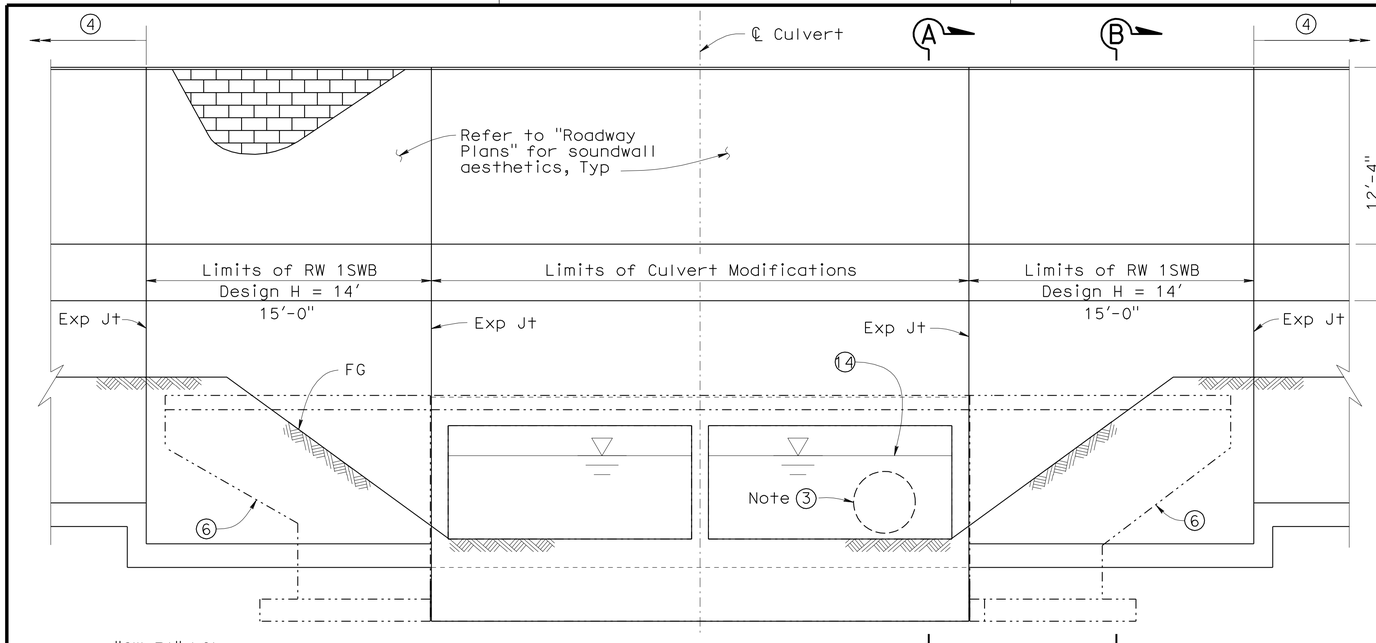
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
SHEET 18 OF 18

EBMUD AQUEDUCT UC

LOG OF TEST BORINGS

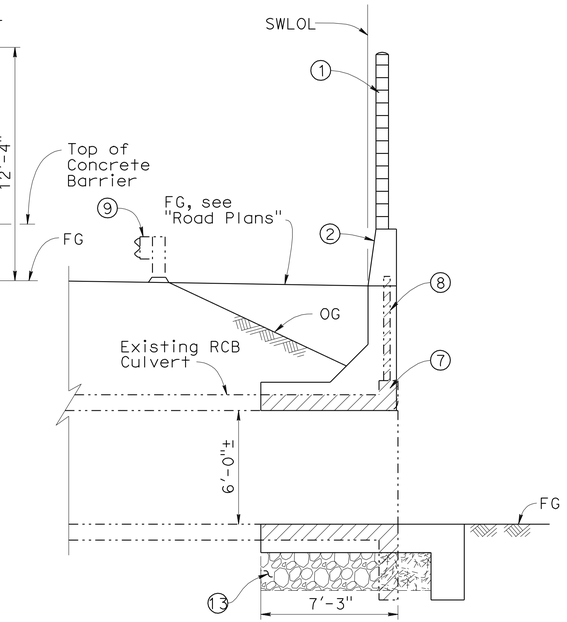
SCALE As Noted | R/L & QR BRIDGE 29-226 | FILE | DRAWING 29226-16

10202 FILENAME => 29-0226-z-ltb04.tif



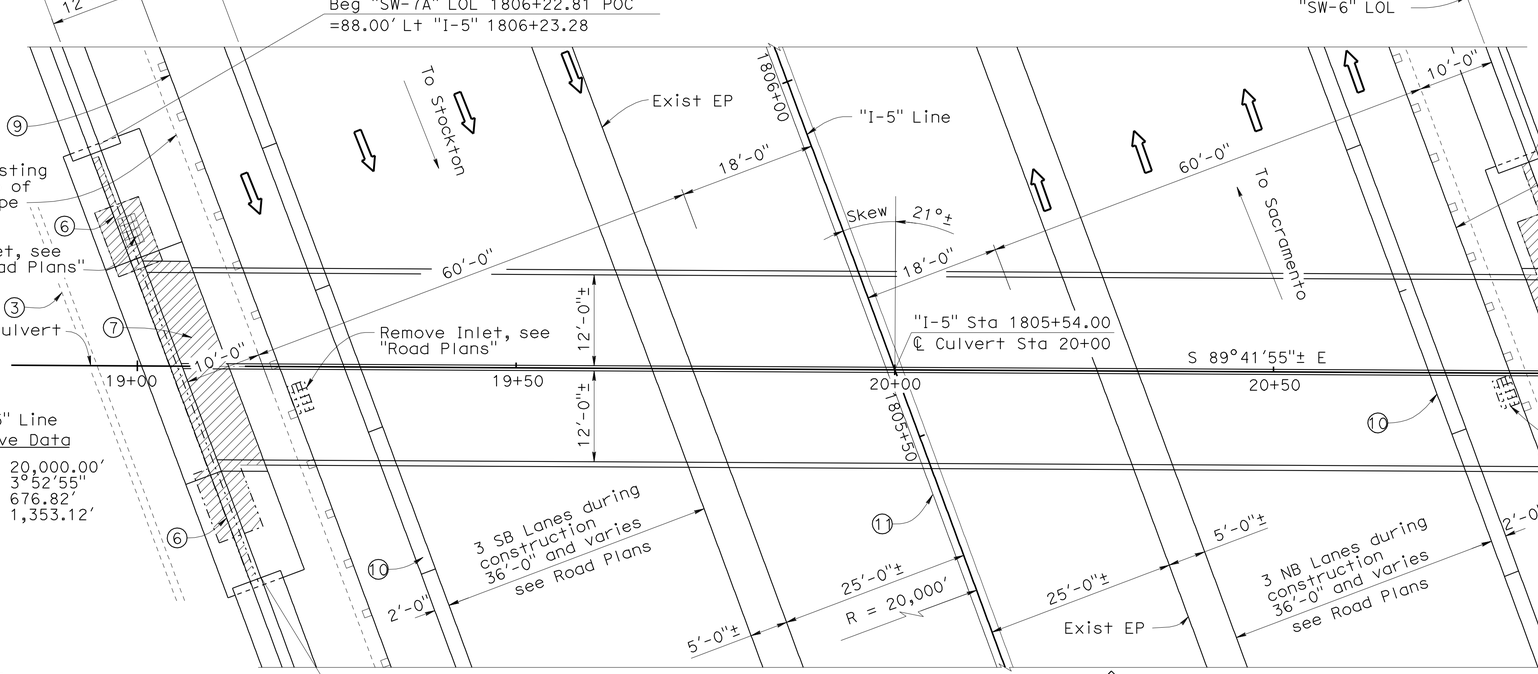

## ELEVATION

1/4" = 1'-0"




## SECTION A-A

1/4" = 1'-0"




## PLAN

1" = 10'

NOTE:

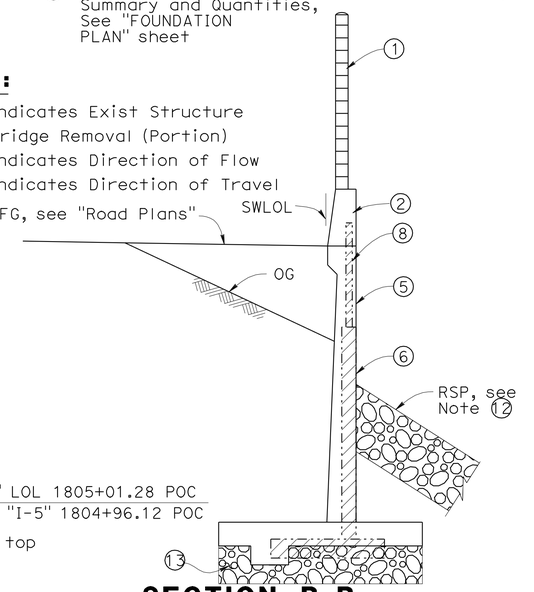
The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

NOTES:

1. Soundwalls No. 6 & No. 7A, see "Road Plans"
2. Concrete Barrier Type 736 (Mod)
3. Temporary Gravel Cofferdam and Culvert as Required, see Project Permits and Specifications.
4. For adjacent Soundwall not shown, see "Road Plans"
5. Retaining Wall Type 1SWB
6. Remove Exist Wingwall
7. Remove Portion of Exist RCB Culvert
8. Remove Exist Chain Link Fence
9. Remove Exist MBGR, see "Road Plans"
10. Temporary Railing Type K for stage construction, see "Road Plans"
11. Concrete Barrier Type 60, see "Road Plans"
12. Remove, Stockpile and Replace Exist RSP as necessary to construct culvert widening
13. Class 3 Aggregate Base
14. For General Notes, Index to Plans, Hydrologic Summary and Quantities, See "FOUNDATION PLAN" sheet

## LEGEND:

- Indicates Exist Structure
- Bridge Removal (Portion)
- Indicates Direction of Flow
- Indicates Direction of Travel




## SECTION B-B

1/4" = 1'-0"

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1120 | 1132 |

RE Sennett 7/28/10
REGISTERED CIVIL ENGINEER — DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA



SAN JOAQUIN COUNCIL OF GOVERNMENT
555 E. WEBER AVENUE
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

John Fujimoto
DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | P. Zhao | G. Dizon |
| DETAILS | P. Zhao | G. Dizon |
| QUANTITIES | R. Huang | G. Dizon |

| | | |
|---|---|---|
| LOAD FACTOR DESIGN | LIVE LOAD; HS20-44 | |
| LAYOUT | BY R. Sennett | CHECKED G. Dizon |
| SPECIFICATIONS | BY R. Sennett | PLANS AND SPECS COMPARED |

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Robert Sennett
PROJECT ENGINEER

CU 06240
EA 0G4701

| BRIDGE NO. | |
|---|---|
| N/A | |
| POST MILES | |
| 32.1 | |

# FIVE MILE SLOUGH CULVERT MODIFICATION

## GENERAL PLAN

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 06/26/09 | 10/16/09 | 12/04/09 | 01/15/10 | 04/23/10 | 06/17/10 | 07/28/10

SHEET 1 OF 13

FILE => 29-xxxxr1-a-gp01.dgn

USERNAME => rtrenord DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

# INDEX TO PLANS

| SHEET NO. | TITLE |
|---|---|
| 1 | GENERAL PLAN |
| 2 | FOUNDATION PLAN |
| 3 | DEMOLITION DETAILS |
| 4 | CULVERT LAYOUT NO. 1 |
| 5 | CULVERT LAYOUT NO. 2 |
| 6 | MODIFICATION DETAILS NO. 1 |
| 7 | MODIFICATION DETAILS NO. 2 |
| 8 | RETAINING WALL TYPE 1SWB |
| 9 | SOUNDWALL DETAILS NO. 1 |
| 10 | SOUNDWALL DETAILS NO. 2 |
| 11 | SOIL LEGEND 1 OF 2 |
| 12 | SOIL LEGEND 2 OF 2 |
| 13 | LOG OF TEST BORINGS |

# LEGEND

Indicates Direction of Flow

X.x — Indicates Bottom of Footing Elevation

13.7x Indicates spot elevation, Typ

# GENERAL NOTES
# LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS, APRIL 2004 (2000 AASHTO with Interims and Revisions by CALTRANS)

REINFORCED CONCRETE: $f_y$ = 60,000 psi; $f'_c$ = 3,600 psi

CULVERT

LOAD FACTORS: 1.5D + 1.5E + 2.5(L+I)

Where D=Dead Load
E=Earth Load
L=Live Load
I=Impact
Capacity reduction factor is included.

LOADING: LIVE LOAD: HS20-44 truck
Surcharge on walls due to live load.

EARTH LOAD: Earth pressures for two conditions:
140 LB/CF vertical, 42 LB/CF horizontal.
140 LB/CF vertical, 140 LB/CF horizontal.

RETAINING WALLS: For Design Notes, see "RETAINING WALL TYPE 1SWB" sheet

SOUND WALLS: For Design Notes, see "SOUNDWALL DETAILS NO.2" sheet

# STANDARD PLANS

Dated May 2006

| | | |
|---|---|---|
| | A10A | ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2) |
| | A10B | ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2) |
| | A10C | SYMBOLS (SHEET 1 OF 2) |
| | A10D | SYMBOLS (SHEET 2 OF 2) |
| | A62A | EXCAVATION AND BACKFILL MISCELLANEOUS DETAILS |
| | A62E | EXCAVATION AND BACKFILL CAST-IN-PLACE REINFORCED CONCRETE BOX AND ARCH CULVERT |
| | D81 | CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT |
| | D82 | CAST-IN-PLACE REINFORCED CONCRETE BOX CULVERT MISCELLANEOUSE DETAILS |
| | B0-1 | BRIDGE DETAILS |
| | B0-3 | BRIDGE DETAILS |
| | B3-8 | RETAINING WALL DETAILS NO. 1 |
| RSP | B15-6 | SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1) |
| RSP | B15-7 | SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2) |
| | B15-9 | SOUND WALL MASONRY BLOCK MISCELLANEOUS DETAILS |

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1121 | 1132 |

R E Sennett — 7/28/10
REGISTERED CIVIL ENGINEER — DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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555 E. WEBER AVENUE
STOCKTON, CA 95202

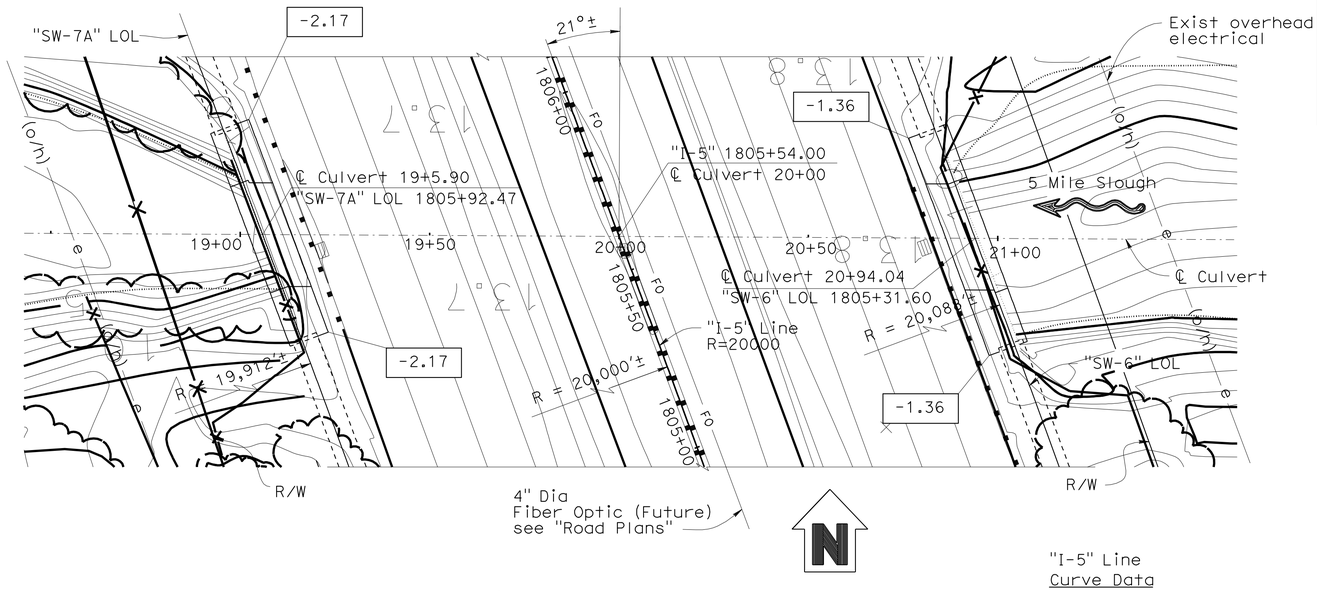
MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

# HYDROLOGIC SUMMARY

| | Design Flood | Design Flood |
|---|---|---|
| Frequency (years) | 50 | 100 |
| Discharge (cubic feet per second) | 136 | 141 |
| Water surface (elevation at bridge) | 9.4 | 9.8 |
| Velocity (feet per second) | 0.94 | 0.98 |

STANDARD PLAN SHEET NO.
DETAIL NO.

Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by MGE Engineering, Inc. and interested or affected parties should make their own investigation.




# FOUNDATION PLAN

1" = 20'

"I-5" Line
Curve Data

R = 20,000.00'
Δ = 3°52'55"
T = 676.82'
L = 1,353.12'

# BENCH MARK AND DATUM

| Monument | Coordinates Northing | Coordinates Easting | Elevation | Description/Location |
|---|---|---|---|---|
| 46 | 2192675.55 | 6315520.45 | 13.62 | PK Nail |
| 604 | 2179257.74 | 6267471.36 | 13.65 | Iron Pipe w/ "MVE CONTROL" Cap |
| 102M | 2192105.52 | 6315533.46 | 13.43 | Iron Pipe w/ "MVE CONTROL" Cap |

NOTE:

There is a vertical datum difference between the project datum (NAVD 88) and the as-built datum (NGVD 29). The following conversion was used in design: Datum Conversion: Elev (NAVD 88) = Elev (NGVD 29) + 2.37'

FIVE MILE SLOUGH RCB
QUANTITIES

| | LUMP SUM |
|---|---|
| BRIDGE REMOVAL (PORTION), LOCATION K | LUMP |
| STRUCTURE EXCAVATION (TYPE D) | 370 CY |
| STRUCTURE BACKFILL (RETAINING WALL) | 300 CY |
| CLASS 3 AGGREGATE BASE | 92 CY |
| STRUCTURAL CONCRETE, RETAINING WALL | 75 CY |
| STRUCTURAL CONCRETE, BOX CULVERT | 102 CY |
| SOUND WALL (MASONRY BLOCK) | 1,120 SQFT |
| BAR REINFORCING STEEL (RETAINING WALL) | 9,100 LB |
| BAR REINFORCING STEEL (BOX CULVERT) | 24,500 LB |
| CONCRETE BARRIER (TYPE 736 MODIFIED) | 120 LF |

NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

Gary Laird — 1/15/10 — GEOTECHNICAL PROFESSIONAL APPROVAL DATE

John Fujimoto — DESIGN OVERSIGHT — John Fujimoto — 8-2-10 — SIGN OFF DATE

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| SCALE: 1" = 20' | VERT.DATUM NAVD88 | HORZ.DATUM CCS83, (2007.00), ZONE 3 | DESIGN | BY P. Zhao | CHECKED G. Dizon | PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | Robert Sennett, PROJECT ENGINEER |
| PHOTOGRAMMETRY AS OF: (N/A) FIELD SURVEYS | ALIGNMENT TIES APPROVED GPS REPORT DATED 7-6-09 | | DETAILS | BY P. Zhao | CHECKED G. Dizon | | |
| SURVEYED BY RYAN VANCE | DRAFTED BY MIKE KORDAZAKIS | | QUANTITIES | BY R. Huang | CHECKED G. Dizon | | |
| FIELD CHECKED BY JEFF CISSELL | CHECKED BY KEVIN LANG | | | | | | |

BRIDGE NO. N/A
POST MILE 32.1

# FIVE MILE SLOUGH CULVERT MODIFICATION
## FOUNDATION PLAN

FOUNDATION PLAN SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 06/08/09 | 10/26/09 | 12/04/09 | 01/25/10 | 04/23/10 | 06/17/10 | 07/28/10

SHEET 2 OF 13

FILE => 29-xxxxrl-e-fp101.dgn

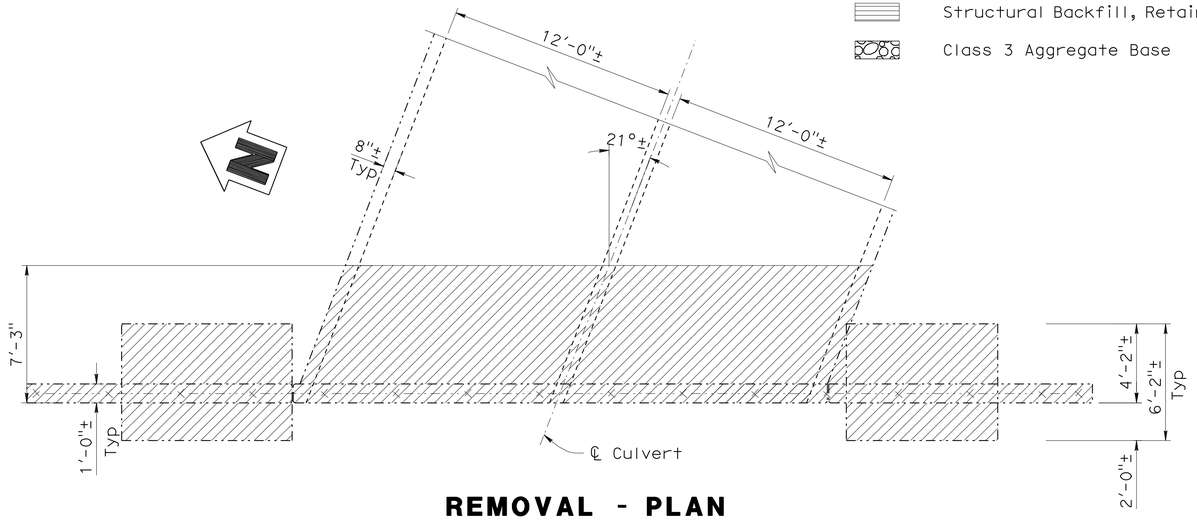
USERNAME => trlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

NOTE:

West End shown. East End similar.

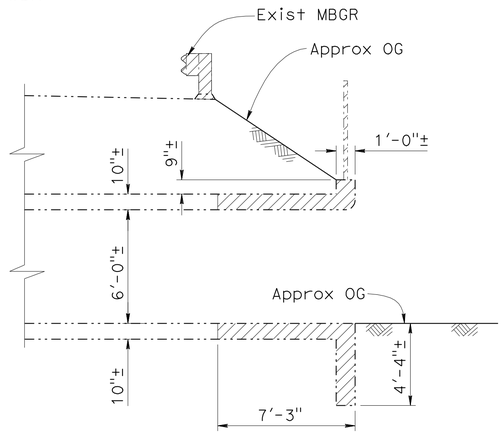
## LEGEND:

- Indicates Exist Structure
- Bridge Removal (Portion)
- Structural Excavation (Type D)
- Structural Backfill, Retaining Wall
- Class 3 Aggregate Base



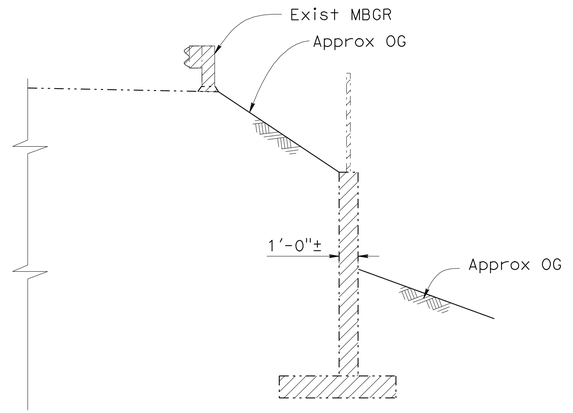

## REMOVAL - PLAN

1/4" = 1'-0"



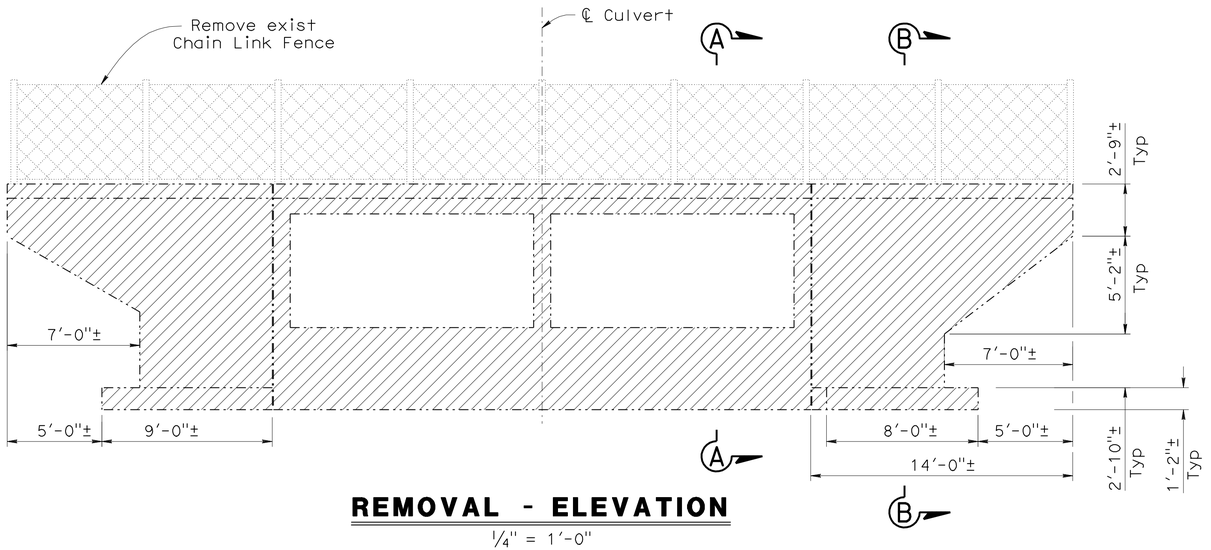

## SECTION A-A

1/4" = 1'-0"



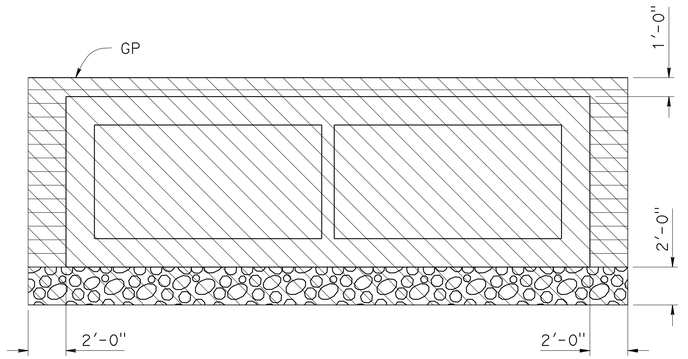

## SECTION B-B

1/4" = 1'-0"

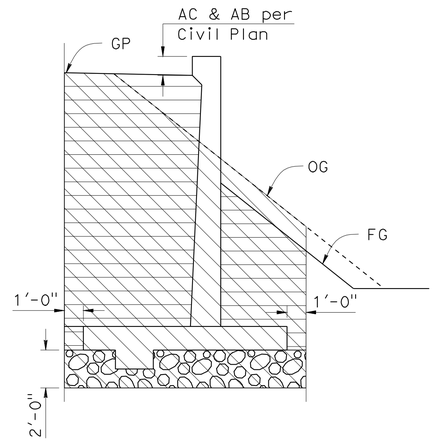



## REMOVAL - ELEVATION

1/4" = 1'-0"




## AT BOX CULVERT




## AT RETAINING WALLS

## LIMITS OF STRUCTURE EXCAVATION & BACKFILL

no scale

NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1122 | 1132 |

R E Sennett 7/28/10
REGISTERED CIVIL ENGINEER DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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SAN JOAQUIN COUNCIL OF GOVERNMENT
555 E. WEBER AVENUE
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

John Fujimoto
DESIGN OVERSIGHT (T) John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | P. Zhao | G. Dizon |
| DETAILS | P. Zhao | G. Dizon |
| QUANTITIES | R. Huang | G. Dizon |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Robert Sennett
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILE 32.1

# FIVE MILE SLOUGH CULVERT MODIFICATION
# DEMOLITION DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/04/09 | 01/15/10 | 04/23/10 | 06/14/10 | 07/28/10

SHEET 3 OF 13

FILE => 29-xxxxrl-e-zdemo01.dgn

USERNAME => frlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1123 | 1132 |

R E Sennett 7/28/10
REGISTERED CIVIL ENGINEER DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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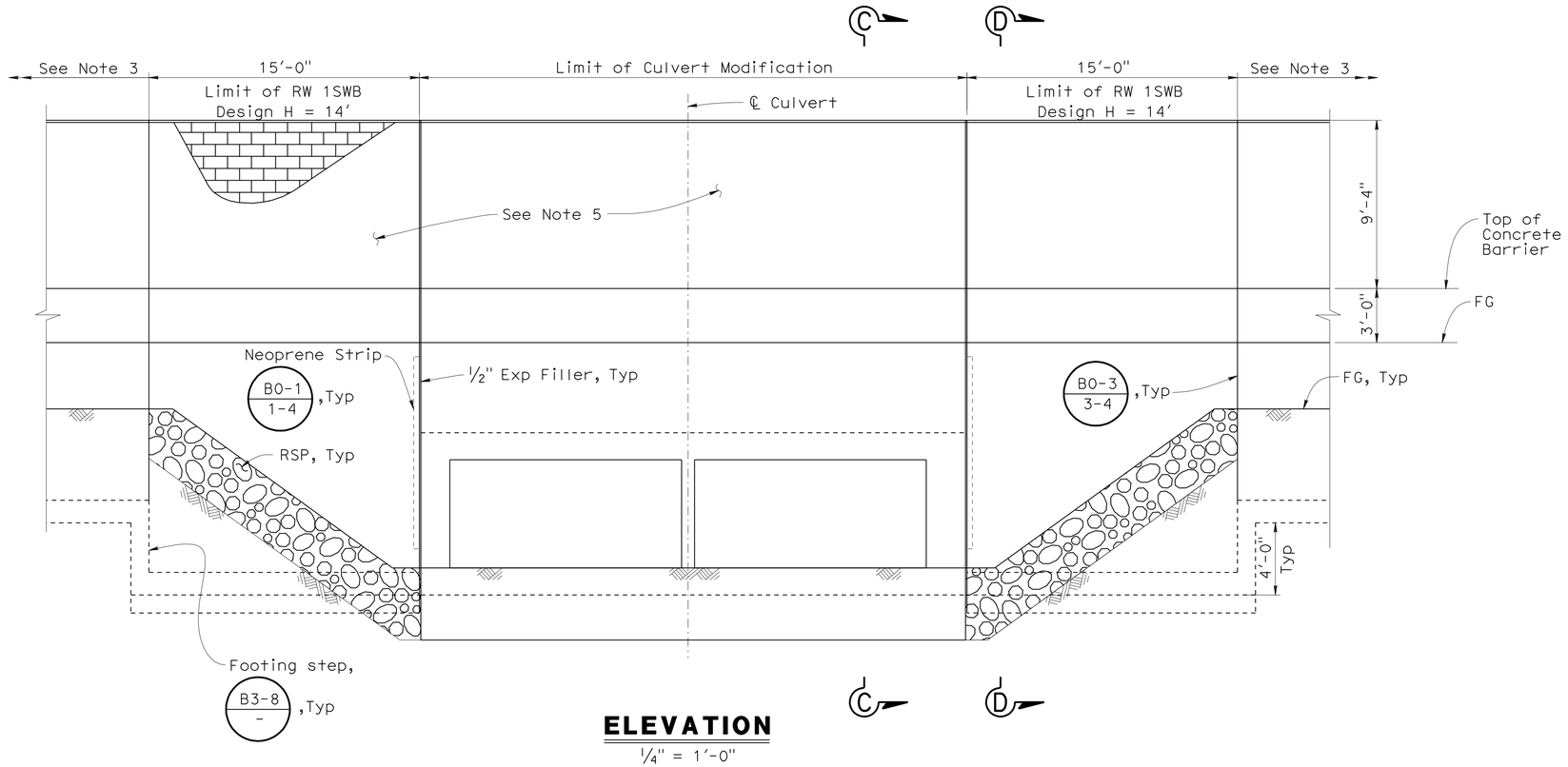
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831




**ELEVATION**
¼" = 1'-0"

NOTES:

1. For Section C-C & Section D-D, see "MODIFICATION DETAILS NO.1" sheet.
2. For details of RW 1SWB, see "RETAINING WALL TYPE 1SWB" sheet.
3. For adjacent soundwall not shown, see Road Plans.
4. West End shown, East End similar.
5. For soundwall aesthetics, see "Road Plans"

NOTE:
The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

John Fujimoto
DESIGN OVERSIGHT John Fujimoto
8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | P. Zhao | G. Dizon |
| DETAILS | P. Zhao | G. Dizon |
| QUANTITIES | R. Huang | G. Dizon |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Robert Sennett
PROJECT ENGINEER

| BRIDGE NO. | FIVE MILE SLOUGH CULVERT MODIFICATION |
|---|---|
| N/A | |
| POST MILE | CULVERT LAYOUT NO. 1 |
| 32.1 | |

DESIGN DETAIL SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES (PRELIMINARY STAGE ONLY) | | | | | | | | | | SHEET | OF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/16/09 | 12/04/09 | 01/15/10 | 04/23/10 | 06/17/10 | 7/28/10 | | | | | 4 | 13 |

FILE => 29-xxxxrl-f-a01_1o01.dgn

USERNAME => frlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1124 | 1132 |

R E Sennett 7/28/10
REGISTERED CIVIL ENGINEER DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Robert Sennett
No. 3976
Exp. 12/31/10
STRUCTURAL
STATE OF CALIFORNIA

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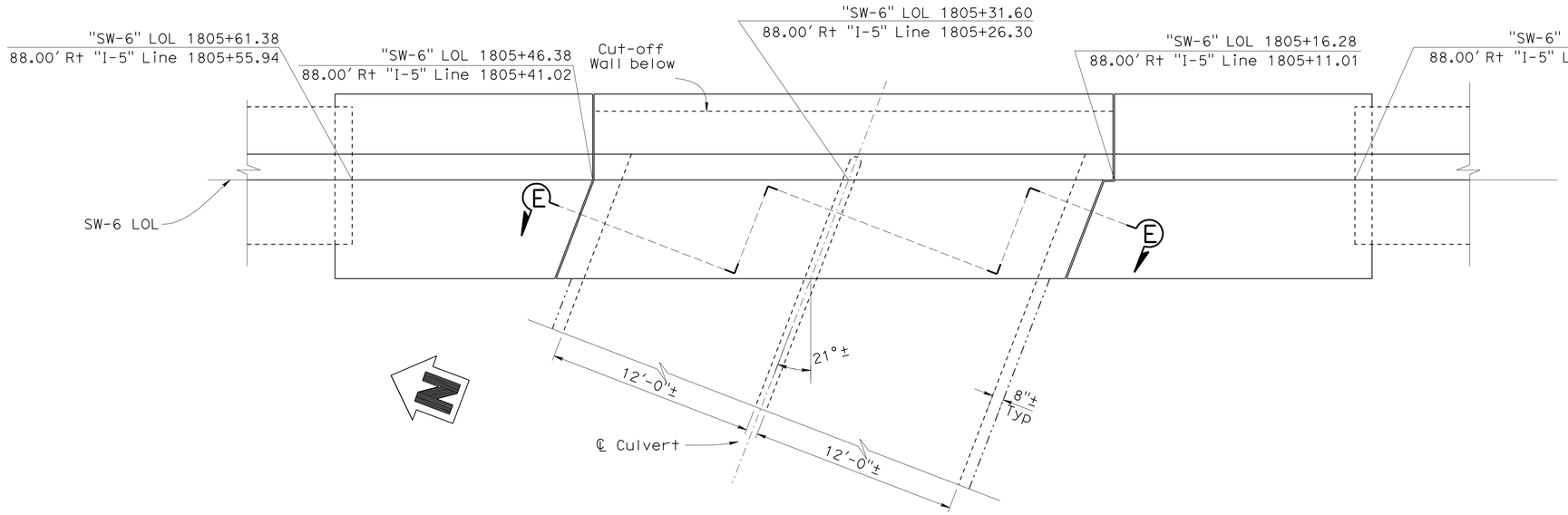
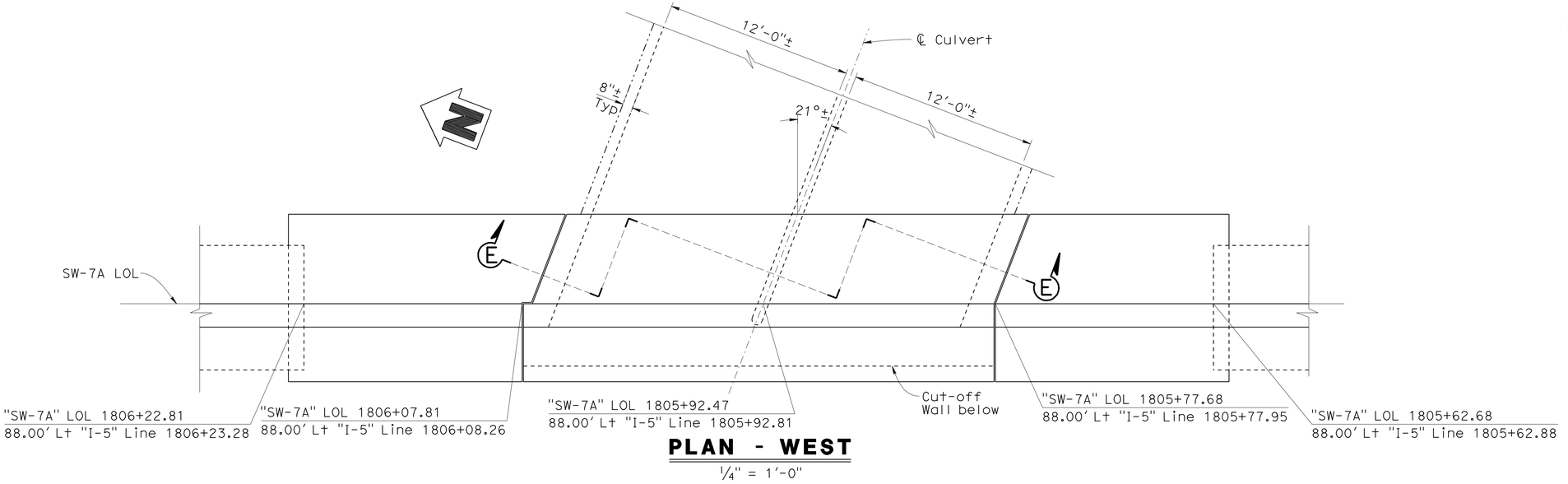
555 E. WEBER AVENUE
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831




## PLAN - EAST

1/4" = 1'-0"




## PLAN - WEST

1/4" = 1'-0"

NOTES:

1. For Section E-E, See "MODIFICATION DETAILS NO. 2" Sheet.

## LEGEND:

-·-·-·- Indicates Exist Structure

NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

John Fujimoto
DESIGN OVERSIGHT John Fujimoto
8-2-10
SIGN OFF DATE

| | | |
|---|---|---|
| DESIGN | BY P. Zhao | CHECKED G. Dizon |
| DETAILS | BY P. Zhao | CHECKED G. Dizon |
| QUANTITIES | BY R. Huang | CHECKED G. Dizon |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Robert Sennett
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILE 32.1

# FIVE MILE SLOUGH CULVERT MODIFICATION
# CULVERT LAYOUT NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/04/09 | 01/28/10 | 04/23/10 | 06/11/10 | 01/28/10

SHEET 5 OF 13

FILE => 29-xxxxrl-f-a01_to02.dgn

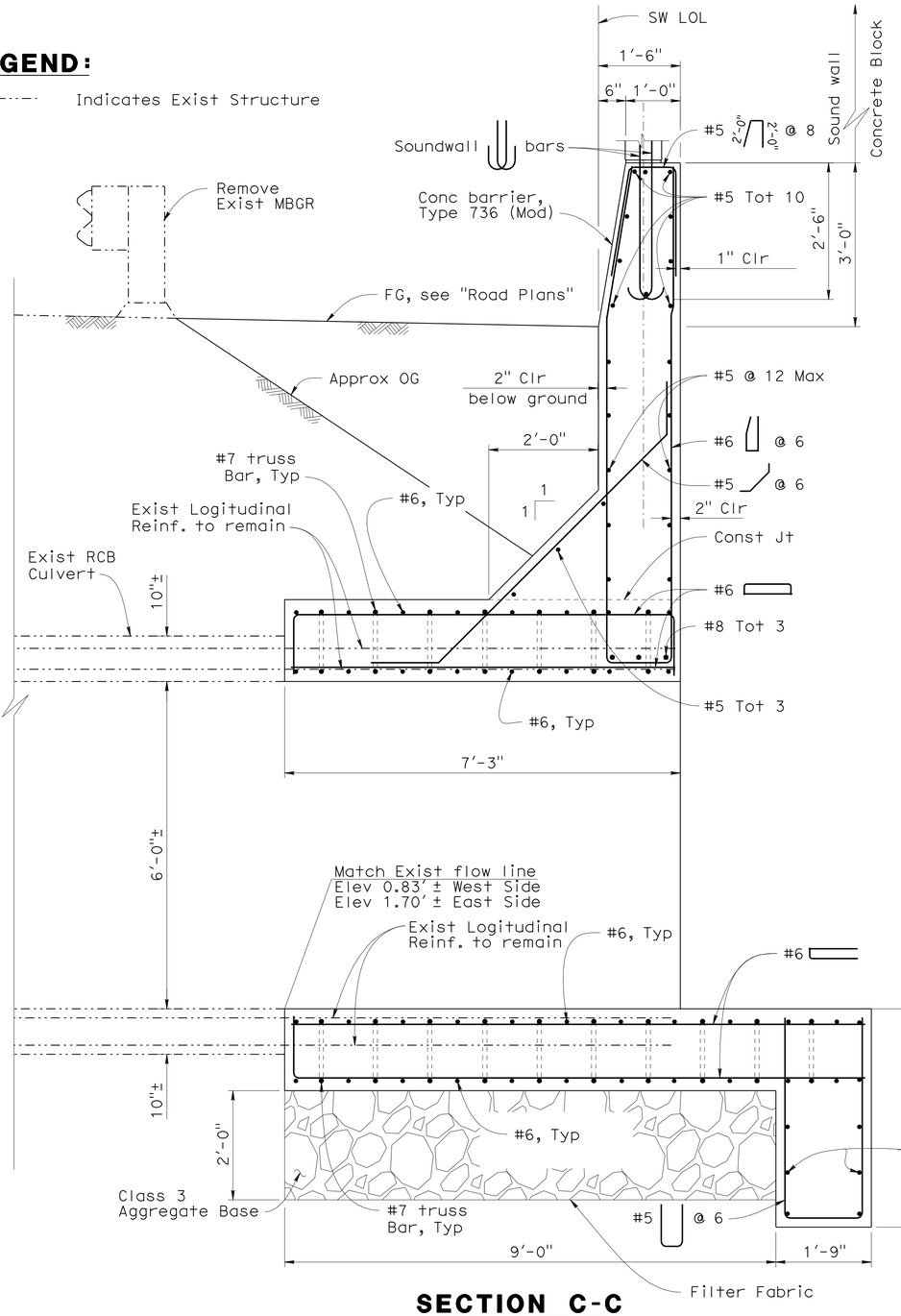
USERNAME => rfriend DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

## LEGEND:

Indicates Exist Structure

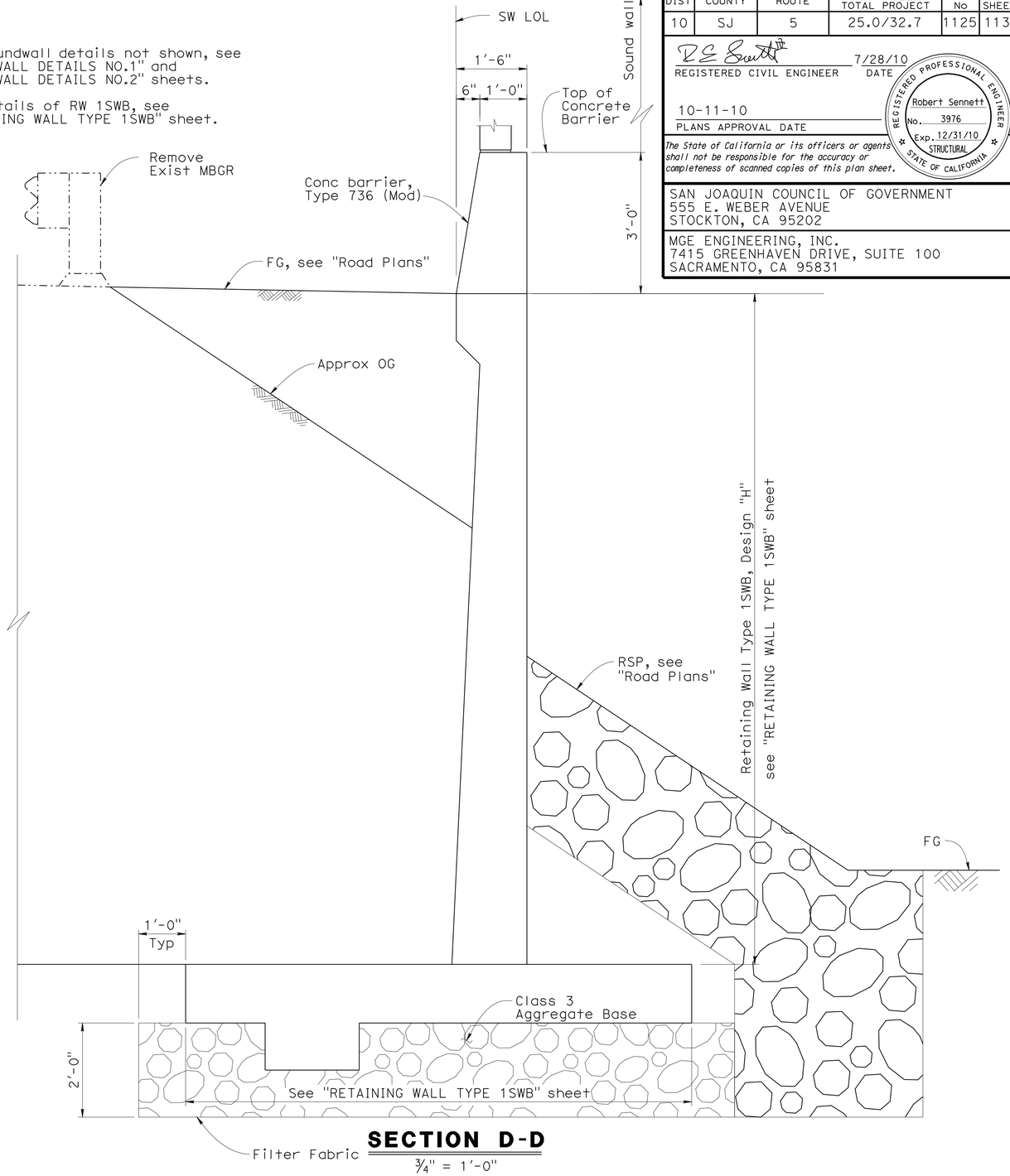
NOTES:

1. For Soundwall details not shown, see "SOUNDWALL DETAILS NO.1" and "SOUNDWALL DETAILS NO.2" sheets.
2. For details of RW 1SWB, see "RETAINING WALL TYPE 1SWB" sheet.




## SECTION C-C

3/4" = 1'-0"




## SECTION D-D

3/4" = 1'-0"

NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1125 | 1132 |

R E Sennett — REGISTERED CIVIL ENGINEER — 7/28/10 DATE

10-11-10 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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555 E. WEBER AVENUE
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

John Fujimoto — DESIGN OVERSIGHT — John Fujimoto
8-2-10 SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | P. Zhao | G. Dizon |
| DETAILS | P. Zhao | G. Dizon |
| QUANTITIES | R. Huang | G. Dizon |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Robert Sennett — PROJECT ENGINEER

BRIDGE NO. N/A
POST MILE 32.1

# FIVE MILE SLOUGH CULVERT MODIFICATION
# MODIFICATION DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES (PRELIMINARY STAGE ONLY) | | | | | | | | | | SHEET | OF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/16/09 | 12/04/09 | 01/15/10 | 04/23/10 | 06/11/10 | 07/28/10 | | | | | 6 | 13 |

FILE => 29-xxxxr1-g-rwdt01.dgn

USERNAME => rtriebord DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1126 | 1132 |

RE Sennett 7/28/10
REGISTERED CIVIL ENGINEER DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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STOCKTON, CA 95202

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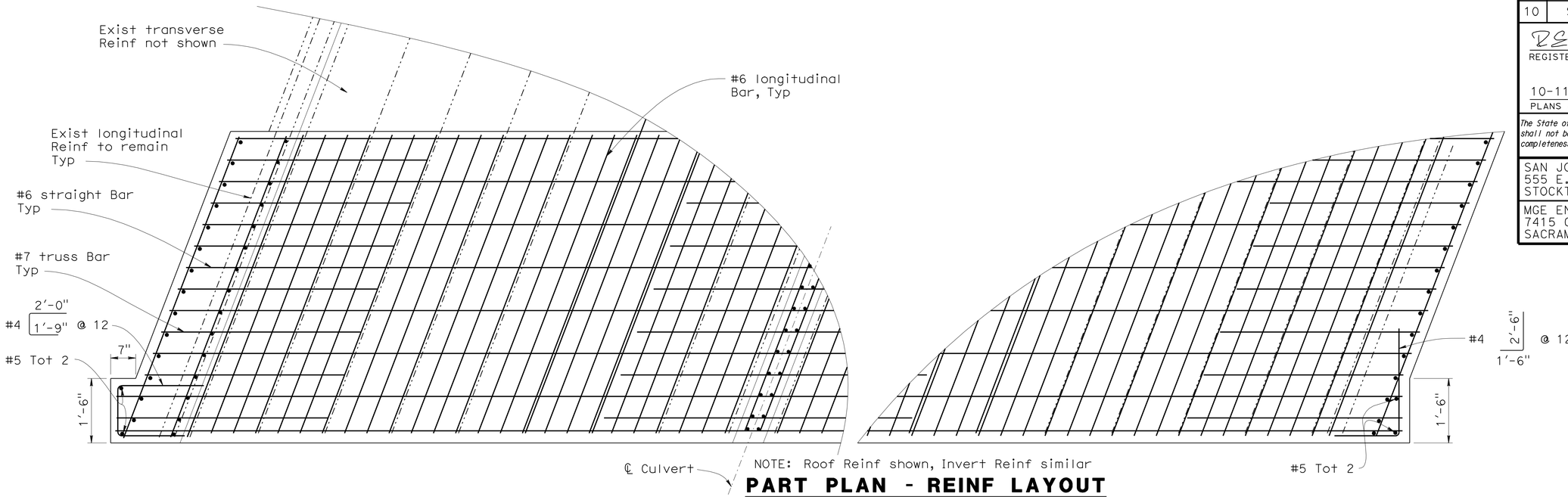
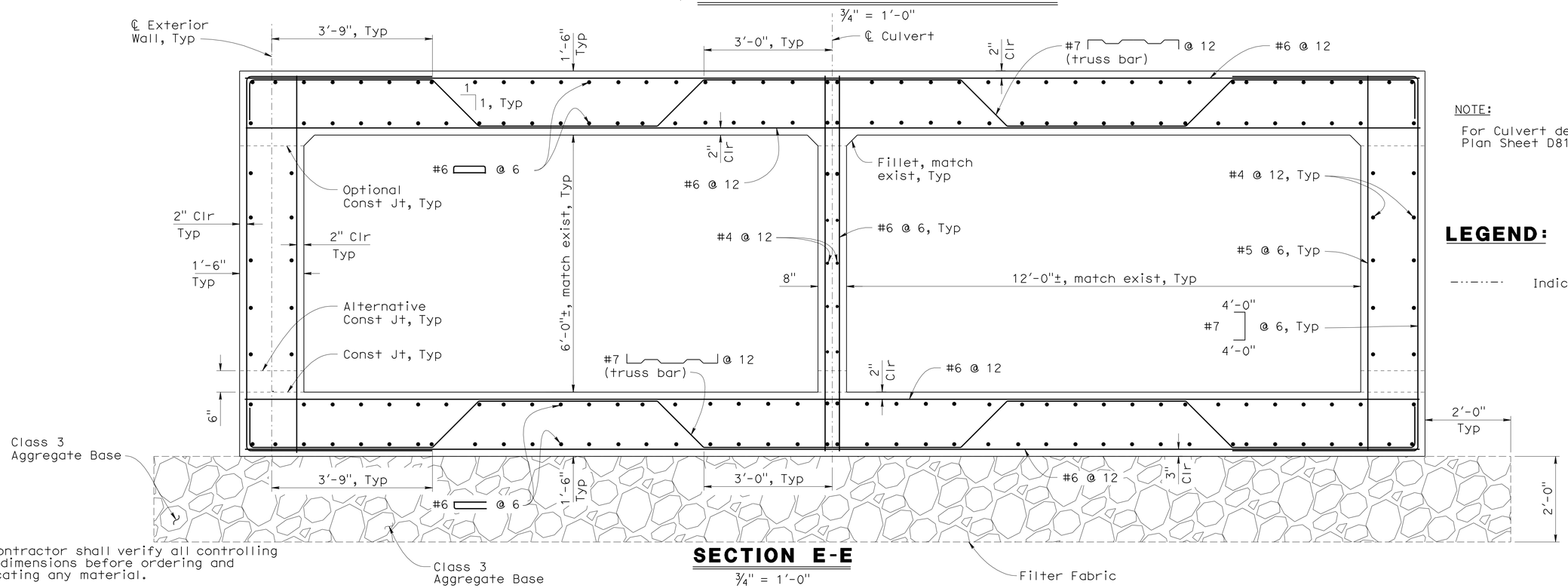
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831




NOTE: Roof Reinf shown, Invert Reinf similar

## PART PLAN - REINF LAYOUT




## SECTION E-E

¾" = 1'-0"

NOTE:

For Culvert details not shown, see Standard Plan Sheet D81 and Sheet D82.

## LEGEND:

—·—·— Indicates Exist Structure

Note:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

John Fujimoto
DESIGN OVERSIGHT John Fujimoto

8-2-10
SIGN OFF DATE

| | BY | CHECKED |
|---|---|---|
| DESIGN | P. Zhao | G. Dizon |
| DETAILS | P. Zhao | G. Dizon |
| QUANTITIES | R. Huang | G. Dizon |

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Robert Sennett
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILE 32.1

# FIVE MILE SLOUGH CULVERT MODIFICATION
# MODIFICATION DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

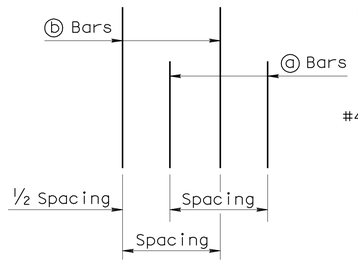
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/04/09 | 01/28/10 | 04/23/10 | 06/11/10 | 01/28/10

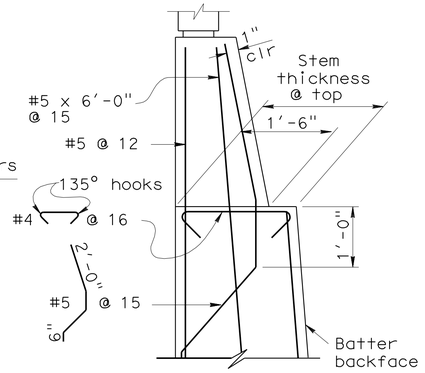
SHEET 7 OF 13

FILE => 29-xxxxrl-g-rwdt02.dgn

USERNAME => rlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00




**DETAIL B**
No Scale




**DETAIL A WITHOUT HAUNCH**
No Scale ①

## GENERAL NOTES

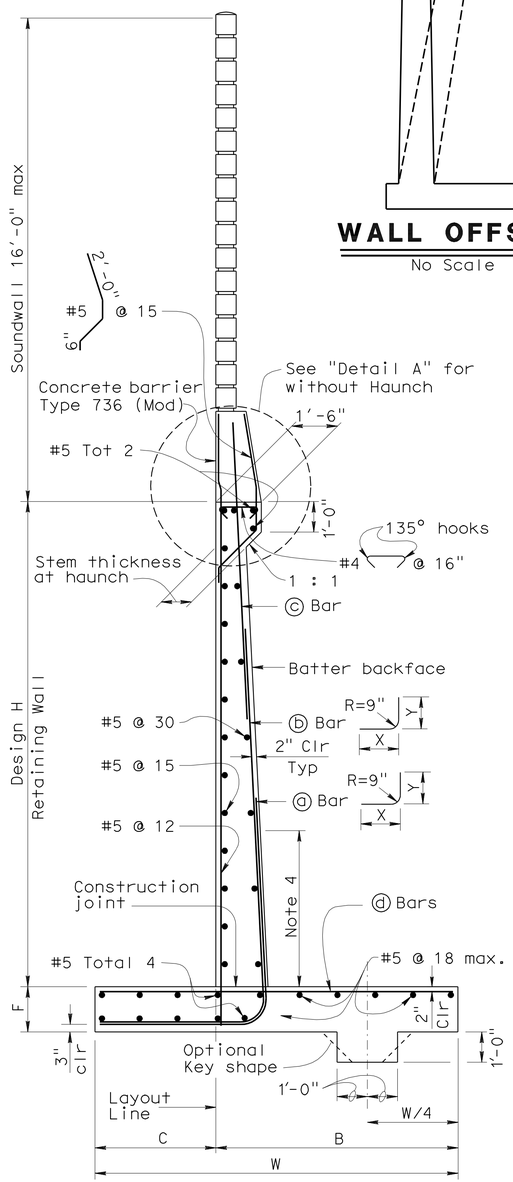
1. For soundwall architectural finish or texture, see "Road Plans"
2. For details not shown and drainage notes, see B3-8
3. Footing cover, 1'-6" minimum.
4. Limit of no splicing rebars = 3 times the bottom thickness of the stem.
5. Placement of reinforcements :
   - ⓑ & ⓒ bars are spliced together.
   - ✳ ⓐ & ⓑ bars are bundled together.
   - ✳✳ Alternate ⓐ & ⓑ bars are shown in "Detail B".
   - Cont = Continuous.
6. For Soundwall & Barrier reinforcement, see "Soundwall Masonry Block on Barriers" sheets in Standard Plans.

TABLE 1: TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

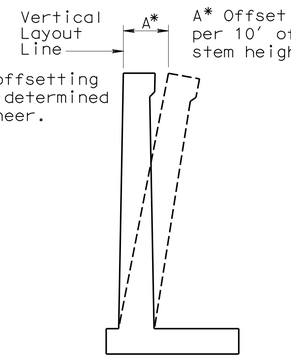
| | Stem With Haunch | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Design H | 6′ | 8′ | 10′ | 12′ | 14′ | 16′ | 18′ | 20′ | 22′ | 24′ | 26′ | 28′ | 30′ | 32′ |
| W | 7′-9" | 8′-0" | 8′-9" | 9′-9" | 10′-9" | 12′-0" | 13′-0" | 14′-3" | 15′-3" | 16′-6" | 18′-6" | 19′-9" | 21′-3" | 22′-6" |
| C | 2′-9" | 2′-9" | 3′-0" | 3′-3" | 3′-6" | 4′-0" | 4′-3" | 4′-9" | 5′-0" | 5′-6" | 6′-3" | 6′-9" | 7′-3" | 7′-9" |
| B | 5′-0" | 5′-3" | 5′-9" | 6′-6" | 7′-3" | 8′-0" | 8′-9" | 9′-6" | 10′-3" | 11′-0" | 12′-3" | 13′-0" | 14′-0" | 14′-9" |
| F Spread footing | 1′-3" | 1′-3" | 1′-3" | 1′-3" | 1′-3" | 1′-6" | 1′-6" | 1′-9" | 2′-0" | 2′-3" | 2′-9" | 3′-0" | 3′-3" | 3′-9" |
| Batter | 0 | ½ :12 | ½ :12 | ½ :12 | ½ :12 | ½ :12 | ½ :12 | ½ :12 | ½ :12 | ⅝ :12 | :12 | :12 | 1 :12 | 1 :12 |
| Stem thickn. @ Haunch | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" | 1′-0" |
| ⓐ Bars | | | | #6 @18$^{XX}$ | #7 @18$^{XX}$ | #8 @18$^{XX}$ | #9 @18$^{XX}$ | #10 @18$^{XX}$ | #8 @ 9$^{X}$ | #8 @ 9$^{X}$ | #7 @ 6$^{X}$ | #10 @12$^{XX}$ | #9 @ 9$^{X}$ | #11@12$^{XX}$ |
| X | | | | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont |
| Y | | | | 8′-0" | 6′-6" | 7′-6" | 8′-6" | 9′-6" | 9′-6" | 11′-0" | 11′-6" | 13′-0" | 14′-0" | 15′-6" |
| ⓑ Bars | #5 @12 | #5 @12 | #5 @ 9 | #6 @18$^{XX}$ | #7 @18$^{XX}$ | #8 @18$^{XX}$ | #9 @18$^{XX}$ | #10 @18$^{XX}$ | #8 @ 9$^{X}$ | #8 @ 9$^{X}$ | #7 @ 6$^{X}$ | #10 @12$^{XX}$ | #9 @ 9$^{X}$ | #11@12$^{XX}$ |
| X | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont | Cont | 5′-6" | 6′-6" | 7′-0" | 8′-0" | 8′-6" |
| Y | Cont | Cont | Cont | Cont | 10′-6" | 13′-0" | 15′-0" | 17′-6" | 19′-6" | 21′-0" | 18′-6" | 19′-0" | 25′-6" | 23′-6" |
| ⓒ Bars | | | | | #6 @18 | #6 @18 | #6 @18 | #6 @18 | #6 @18 | #6 @18 | #6 @12 | #7 @12 | #7 @18 | #7 @12 |
| ⓓ Bars | #5 @12 | #5 @12 | #5 @12 | #5 @ 9 | #6 @ 9 | #6 @ 9 | #6 @ 6 | #8 @ 9 | #8 @ 9 | #8 @ 9 | #7 @ 6 | #7 @ 6 | #9 @ 9 | #9 @ 9 |
| Ultimate Bearing Capacity Req'd k/sf | 4.6 | 5.5 | 6.1 | 6.6 | 7.3 | 8.1 | 9.0 | 9.9 | 11.3 | 12.2 | 12.5 | 13.4 | 14.1 | 15.4 |

②

NOTE:
The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.




**SPREAD FOOTING SECTION** ①
No Scale




**WALL OFFSET**
No Scale

## DESIGN DATA ③

DESIGN: Load Factor Design (LFD)

CONCRETE: Reinforced Concrete, f'c = 3600 psi
fy = 60,000 psi

LOADING CASE:
Level ground with 240 psf surcharge and 16' Soundwall

| | |
|---|---|
| Seismic Load | = 0.3 Dead Load |
| Wind Load | = 30 psf |
| Dead Load of Soundwall | = 1414 lb/ft |
| Dead Load of Barrier | = 372 lb/ft |

SEISMIC LOAD: SOIL
Kh = 0.3g
Kv = 0.0
Kae : Mononobe-Okabe Method

SOIL: Ø = 34° γ = 125 pcf
Equivalent fluid pressure:
= 36 pcf for determination of toe pressure
= 27 pcf for determination of heel pressure
Ultimate Bearing Capacity = 7.5 ksf
Coefficient of Friction μ = 0.3
Passive Soil Resistance = 330 pcf

EXTERNAL STABILITY:
Group 1 : D + E + SC
Group 2 : D + E + SC + W
Group 3 : D + PYM

INTERNAL STABILITY (LFD):
Group A : βD + 1.7E + 1.7SC
Group B : βD + 1.7E + 1.3W
Group C (stem) : 1.0D + 1.0E + 1.0EQD + 1.0EQE
Group C (footing) : D + PYM

Where : β = 1.0 or 1.3 whichever controls design
D = Dead Load
E = Lateral Earth Pressure
SC = Surcharge
W = Wind load
EQD = Seismic Dead Load
EQE = Seismic Lateral Earth Pressure
PYM = Probable Yield Moment (1.3 x Nominal Yield Moment of Stem)

| DIST. | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1127 | 1132 |

RE Sennett 7/28/10
REGISTERED CIVIL ENGINEER - DATE
10-11-10
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA
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SAN JOAQUIN COUNCIL OF GOVERNMENT
555 E. WEBER AVENUE
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

STANDARD DRAWING
FILE NO. xs14-220e
APPROVED BY G. WANG — RESPONSIBLE TECHNICAL SPECIALIST
APPROVAL DATE 5-19-08
RELEASED BY ROBERTO LACALLE — RESPONSIBLE OFFICE CHIEF
RELEASE DATE 5-19-08

① Modified Detail ③ Modified Design Data
② Delete Table

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

CU 06240
EA 0G4701

| BRIDGE NO. | FIVE MILE SLOUGH CULVERT MODIFICATION |
|---|---|
| N/A | |
| POST MILE | RETAINING WALL TYPE 1SWB |
| 32.1 | |

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 | 12/04/09 | 01/25/10 | 04/23/10 | 06/17/10 | 07/28/10

SHEET 8 OF 13

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:00
USERNAME => trienard
29-xxxxrl-u-miscdt01.

| DIST. | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1128 | 1132 |

R E Sennett 7/28/10
REGISTERED CIVIL ENGINEER - DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett, No. 3976, Exp. 12/31/10, STRUCTURAL, STATE OF CALIFORNIA

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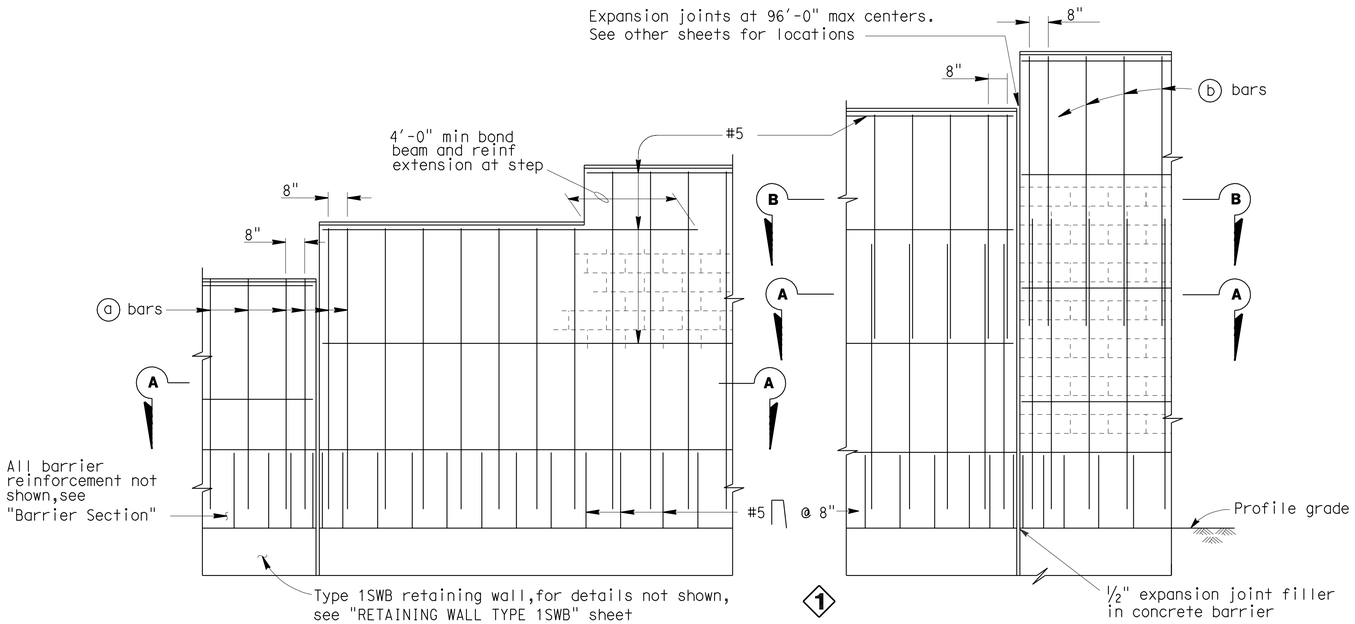
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

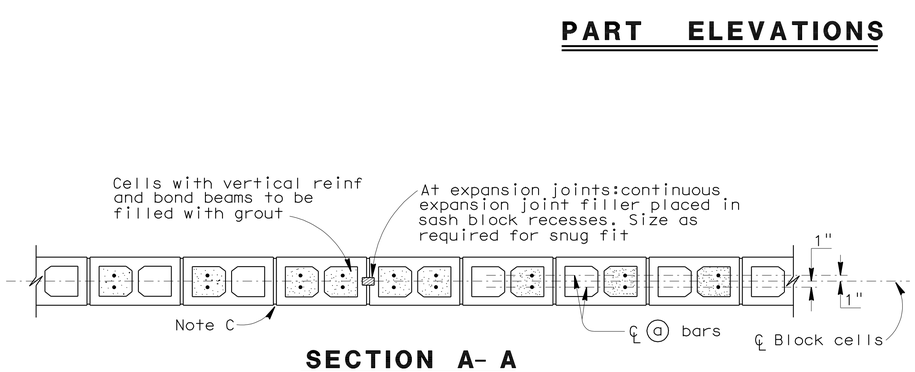



## SOUNDWALL REINFORCEMENT TABLE

| Maximum H | ⓐ bars @ 1'-4" max | ⓑ bars @ 1'-4" max | "y" | f'm (KSI) | Compressive Strength of CMU (KSI) | Maximum H |
|---|---|---|---|---|---|---|
| 6'-4" | # 4 | ——— | ——— | 1.5 | 1.9 | 6'-4" |
| 8'-4" | # 4 | ——— | ——— | 1.5 | 1.9 | 8'-4" |
| 10'-4" | # 4 | ——— | ——— | 1.5 | 1.9 | 10'-4" |
| 12'-4" | # 5 | # 4 | 5'-0" | 1.5 | 1.9 | 12'-4" |
| 14'-4" | # 6 | # 4 | 7'-0" | 1.5 | 1.9 | 14'-4" |
| 16'-4" | # 6 | # 4 | 9'-0" | 2.5 | 3.7 | 16'-4" |

1

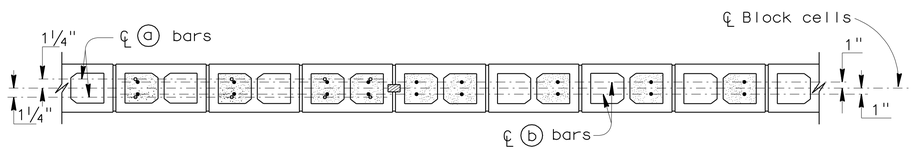
## PART ELEVATIONS




### SECTION A- A

For details not shown,see other details

**H=6'-4" THRU H=10'-4"**



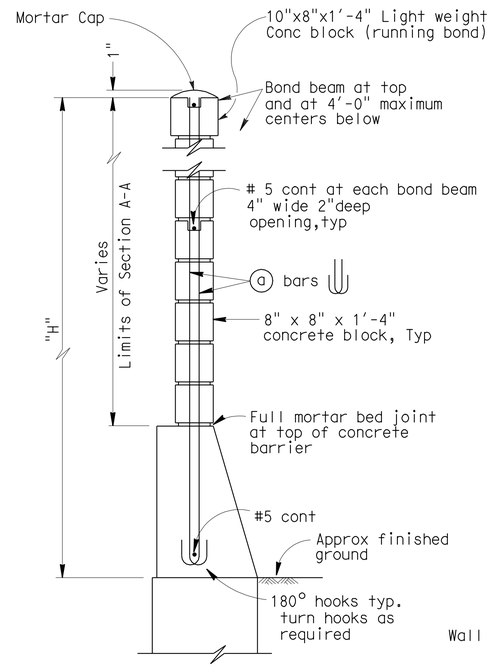

### SECTION A- A SECTION B- B

For details not shown,see other details

**H=12'-4" THRU H=16'-4"**

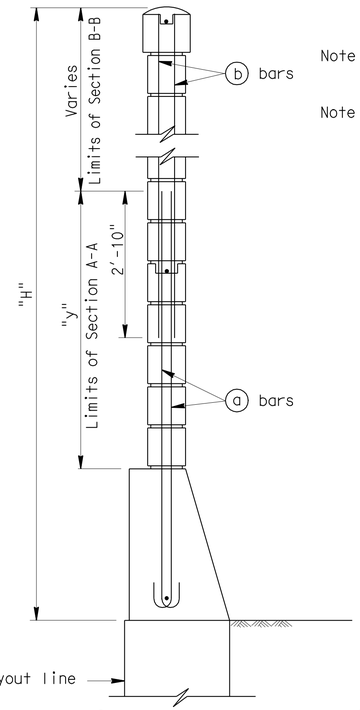
NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.




**H=6'-4" THRU H=10'-4"**

For details not shown,see H=12'-4" thru H=16'-4"




**H=12'-4" THRU H=16'-4"**

For details not shown,see H=6'-4" thru H=10'-4"

1

## TYPICAL SECTIONS

2

Note I : For details not shown,see "SOUNDWALL DETAILS NO.2" sheet.

Note II : Slope ground at traffic side of barrier to drain. Maximum slope ±10%.

## GENERAL NOTES

Note A: For type of block and joint finish, see other sheets.

Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 0.07"-0.14" wire continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.

Note C: Horizontal joints shall be tooled concave or may be weathered.
Vertical joints shall be tooled concave or may be raked.

Note D: For intermediate wall heights that are between the "H's" given. Use the tabular information for the next higher "H".

Note E: Masonry strengths are listed in "SOUNDWALL REINFORCEMENT TABLE".

Note F: Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.

Note G: For soundwall aesthetics see 'Road Plans'

1

| STANDARD DRAWING | | | | | |
|---|---|---|---|---|---|
| FILE NO. xs15-130-1e | APPROVED BY T SATTER (RESPONSIBLE TECHNICAL SPECIALIST) | APPROVAL DATE 2-13-09 | RELEASED BY ROBERTO LACALLE (RESPONSIBLE OFFICE CHIEF) | RELEASE DATE 2-13-09 | 1 Revised Call-out/Notes; 2 Revised Details |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

CU 06240
EA 0G4701

| BRIDGE NO. | FIVE MILE SLOUGH CULVERT MODIFICATION |
|---|---|
| N/A | |
| POST MILE 32.1 | SOUND WALL DETAILS NO.1 |

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES (PRELIMINARY STAGE ONLY) | | | | | | | | | | SHEET | OF |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/16/09 | 12/04/09 | 01/13/10 | 04/23/10 | 06/17/10 | 07/28/10 | | | | | 9 | 13 |

USERNAME => trienard

DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:05

29-xxxxrl-u-miscdt02.

| DIST. | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1129 | 1132 |

RE Sennett 7/28/10
REGISTERED CIVIL ENGINEER - DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Robert Sennett — No. 3976 — Exp. 12/31/10 — STRUCTURAL — STATE OF CALIFORNIA

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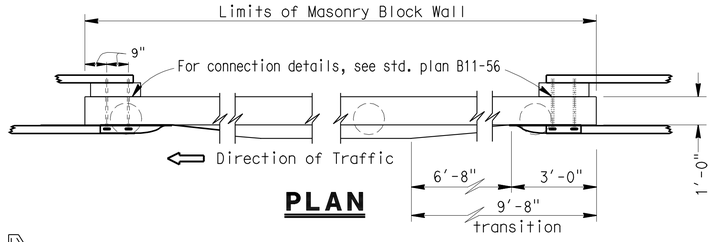
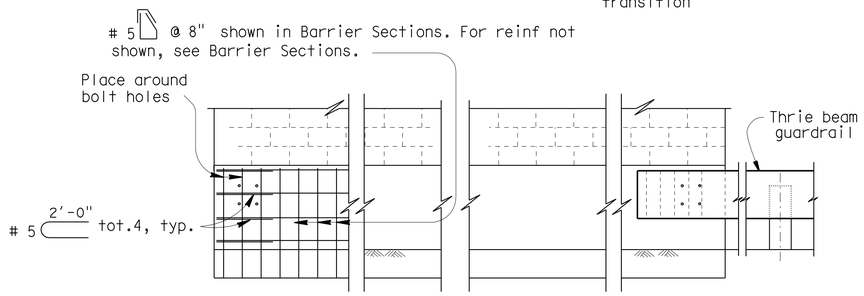
STOCKTON, CA 95202

MGE ENGINEERING, INC.
7415 GREENHAVEN DRIVE, SUITE 100
SACRAMENTO, CA 95831

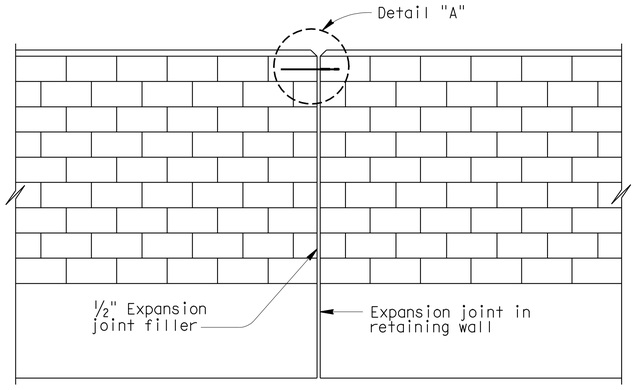



## PLAN

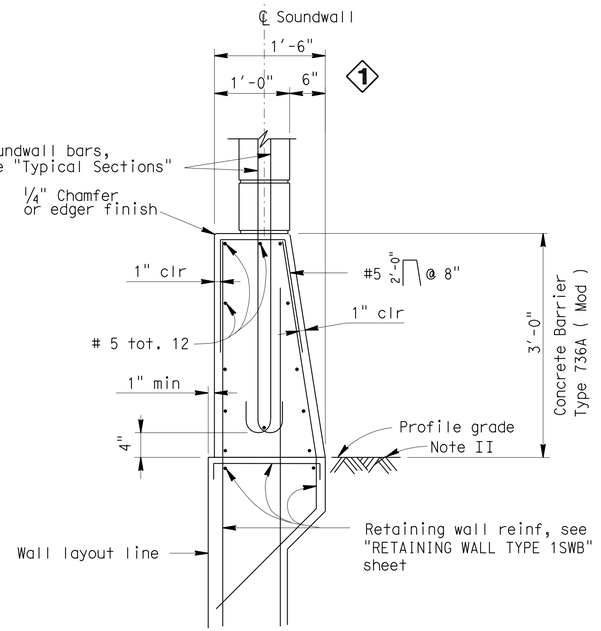



## ELEVATION
## METAL BEAM GUARDRAIL ANCHORAGE

For details not shown, see std. plan B11-56.




## ALIGNMENT KEY DETAIL




## BARRIER SECTION

**NOTES:**

I : For details not shown, see "RETAINING WALL TYPE 1SWB" sheet. ◇2

II : Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See Standard Plan B11-56, Note D.

## DESIGN NOTES

**DESIGN**

Uniform Building Code, 1997 Edition and the Bridge Design Specifications.

**DESIGN WIND LOAD**

33 PSF

**DESIGN SEISMIC LOAD**

0.57 Dead load

**REINFORCED CONCRETE**

f'c = 3250 PSI
fy = 60 KSI

**CONCRETE MASONRY**

| REGULAR STRENGTH | HIGH STRENGTH | |
|---|---|---|
| f'm = 1500 PSI | f'm = 2000 PSI | f'm = 2500 PSI |
| fb = 1500 PSI | fb = 660 PSI | fb = 830 PSI |
| fs = 24.0 KSI | fs = 24.0 KSI | fs = 24000 PSI |
| n = 25.8 | n = 19.3 | n = 15.5 |

**LOAD FACTORS AND LOAD COMBINATIONS**

Working Stress Design ( WSD ) Percentage of unit stress

Group 1: D + E + SC 100%
Group 2: D + W + SC + E 100%
Group 3: D + 0.71 EQD + E 100%

Where:

D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load

Load Factor Design ( LFD )

Group A: βD +1.7 E + 1.7 SC
Group B: βD +1.7 E + 1.3 W
Group C: βD +1.3 E + 1.0 EQE
Group D: βD +1.3 E + 1.0 EQD
Group E: βD +1.1 E + 0.85 ( EQE + EQD )

Where : β = 0.9 or 1.2, whichever controls in design
D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load
EQE = Seismic earth load

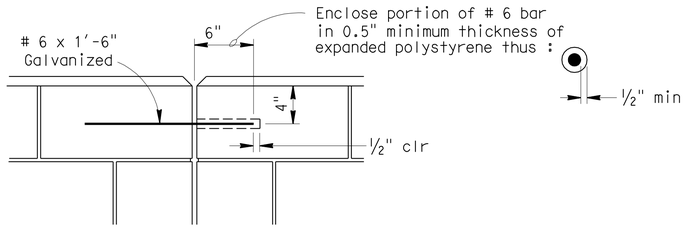
**STRENGTH REDUCTION FACTORS, ø**

Reinforced concrete:
For flexure ø=0.90
For shear ø=0.85

Concrete masonry:
For flexure ø=0.80
For shear ø=0.60

Foundations :
See "RETAINING WALL TYPE 1SWB" sheet. ◇2

◇3




## DETAIL A

NOTE:

The Contractor shall verify all controlling field dimensions before ordering and fabricating any material.

STANDARD DRAWING

FILE NO. xs15-130-2e

APPROVED BY T SATTER — RESPONSIBLE TECHNICAL SPECIALIST
APPROVAL DATE 4-15-08

RELEASED BY ROBERTO LACALLE — RESPONSIBLE OFFICE CHIEF
RELEASE DATE 4-15-08

◇1 Revised Dimensions ◇3 Detail Deleted
◇2 Revised Call-out/Notes

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

CU 06240
EA 0G4701

BRIDGE NO. N/A
POST MILE 32.1

FIVE MILE SLOUGH CULVERT MODIFICATION
SOUND WALL DETAILS NO.2

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 10/16/09 12/04/09 01/13/10 04/23/10 06/17/10 07/28/10

SHEET 10 OF 13

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. 01/11/08)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

USERNAME => trlenard

DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 03:38:20

29-xxxxrl-u-miscdt03.

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1130 | 1132 |

GEOTECHNICAL PROFESSIONAL — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/11 — GEOTECHNICAL — STATE OF CALIFORNIA

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SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

## CEMENTATION

| Description | Criteria |
|---|---|
| Weak | Crumbles or breaks with handling or little finger pressure. |
| Moderate | Crumbles or breaks with considerable finger pressure. |
| Strong | Will not crumble or break with finger pressure. |

## BOREHOLE IDENTIFICATION

| Symbol | Hole Type | Description |
|---|---|---|
| Size | A | Auger Boring |
| Size | R<br>P | Rotary drilled boring<br>Rotary percussion boring (air) |
| Size | R | Rotary drilled diamond core |
| Size | HD<br>HA | Hand driven (1-inch soil tube)<br>Hand Auger |
| ● | D | Dynamic Cone Penetration Boring |
| ▲ | CPT | Cone Penetration Test (ASTM D 5778-95) |
| ⬚ | O | Other |

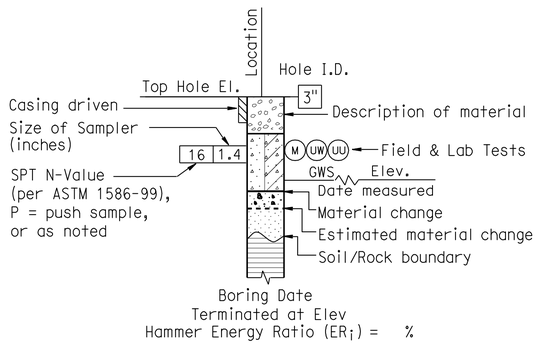
**Note: Size in inches.**

## CONSISTENCY OF COHESIVE SOILS

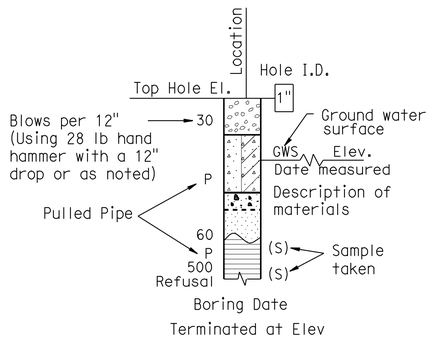
| Description | Unconfined Compressive Strength (tsf) | Pocket Penetrometer Measurement (tsf) | Torvane Measurement (tsf) | Field Approximation |
|---|---|---|---|---|
| Very Soft | < 0.25 | < 0.25 | < 0.12 | Easily penetrated several inches by fist |
| Soft | 0.25 to 0.50 | 0.25 to 0.50 | 0.12 to 0.25 | Easily penetrated several inches by thumb |
| Medium Stiff | 0.50 to 1.0 | 0.50 to 1.0 | 0.25 to 0.50 | Penetrated several inches by thumb with moderate effort |
| Stiff | 1 to 2 | 1 to 2 | 0.50 to 1.0 | Readily indented by thumb but penetrated only with great effort |
| Very Stiff | 2 to 4 | 2 to 4 | 1.0 to 2.0 | Readily indented by thumbnail |
| Hard | > 4.0 | > 4.0 | > 2.0 | Indented by thumbnail with difficulty |

## PLASTICITY OF FINE-GRAINED SOILS

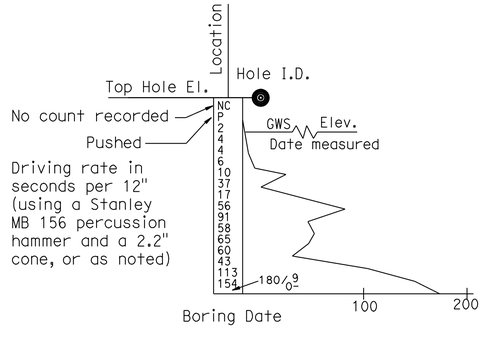
| Description | Criteria |
|---|---|
| Nonplastic | A 1/8-inch thread cannot be rolled at any water content. |
| Low | The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit. |
| Medium | The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit. |
| High | It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit. |



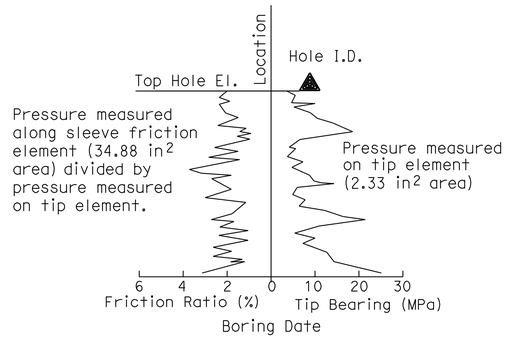

**ROTARY BORING**




**HAND BORING**




**DYNAMIC CONE PENETRATION BORING**




**CONE PENETRATION TEST (CPT) SOUNDING**

John Fujimoto — DESIGN OVERSIGHT — John Fujimoto
8-2-10 — SIGN OFF DATE

| | |
|---|---|
| DRAWN BY | O. GOUTHIER |
| CHECKED BY | D. WANG |

S. DUDDU - A. R. BHARADWAJ
FIELD INVESTIGATION BY:
DATE: MARCH 2009 - APRIL 2009

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILES 32.10

# FIVE MILE SLOUGH CULVERT MODIFICATION
## SOIL LEGEND 1 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/16/09 | 12/04/09 | 01/15/10 | 04/28/10 | 06/17/10 | 7/28/10

SHEET 11 OF 13

FILE => 29-xxxxrl-z-1tb01.dgn

USERNAME => ftrenord DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:01

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

## GROUP SYMBOLS AND NAMES

| Graphic/Symbol | Group Names | Graphic/Symbol | Group Names |
|---|---|---|---|
| GW | Well-graded GRAVEL<br>Well-graded GRAVEL with SAND | CL | Lean CLAY<br>Lean CLAY with SAND<br>Lean CLAY with GRAVEL<br>SANDY lean CLAY<br>SANDY lean CLAY with GRAVEL<br>GRAVELLY lean CLAY<br>GRAVELLY lean CLAY with SAND |
| GP | Poorly graded GRAVEL<br>Poorly graded GRAVEL with SAND | | |
| GW-GM | Well-graded GRAVEL with SILT<br>Well-graded GRAVEL with SILT and SAND | CL-ML | SILTY CLAY<br>SILTY CLAY with SAND<br>SILTY CLAY with GRAVEL<br>SANDY SILTY CLAY<br>SANDY SILTY CLAY with GRAVEL<br>GRAVELLY SILTY CLAY<br>GRAVELLY SILTY CLAY with SAND |
| GW-GC | Well-graded GRAVEL with CLAY (or SILTY CLAY)<br>Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND) | | |
| GP-GM | Poorly graded GRAVEL with SILT<br>Poorly graded GRAVEL with SILT and SAND | ML | SILT<br>SILT with SAND<br>SILT with GRAVEL<br>SANDY SILT<br>SANDY SILT with GRAVEL<br>GRAVELLY SILT<br>GRAVELLY SILT with SAND |
| GP-GC | Poorly graded GRAVEL with CLAY (or SILTY CLAY)<br>Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND) | | |
| GM | SILTY GRAVEL<br>SILTY GRAVEL with SAND | OL | ORGANIC lean CLAY<br>ORGANIC lean CLAY with SAND<br>ORGANIC lean CLAY with GRAVEL<br>SANDY ORGANIC lean CLAY<br>SANDY ORGANIC lean CLAY with GRAVEL<br>GRAVELLY ORGANIC lean CLAY<br>GRAVELLY ORGANIC lean CLAY with SAND |
| GC | CLAYEY GRAVEL<br>CLAYEY GRAVEL with SAND | | |
| GC-GM | SILTY, CLAYEY GRAVEL<br>SILTY, CLAYEY GRAVEL with SAND | OL | ORGANIC SILT<br>ORGANIC SILT with SAND<br>ORGANIC SILT with GRAVEL<br>SANDY ORGANIC SILT<br>SANDY ORGANIC SILT with GRAVEL<br>GRAVELLY ORGANIC SILT<br>GRAVELLY ORGANIC SILT with SAND |
| SW | Well-graded SAND<br>Well-graded SAND with GRAVEL | | |
| SP | Poorly graded SAND<br>Poorly graded SAND with GRAVEL | CH | Fat CLAY<br>Fat CLAY with SAND<br>Fat CLAY with GRAVEL<br>SANDY fat CLAY<br>SANDY fat CLAY with GRAVEL<br>GRAVELLY fat CLAY<br>GRAVELLY fat CLAY with SAND |
| SW-SM | Well-graded SAND with SILT<br>Well-graded SAND with SILT and GRAVEL | | |
| SW-SC | Well-graded SAND with CLAY (or SILTY CLAY)<br>Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL) | MH | Elastic SILT<br>Elastic SILT with SAND<br>Elastic SILT with GRAVEL<br>SANDY elastic SILT<br>SANDY elastic SILT with GRAVEL<br>GRAVELLY elastic SILT<br>GRAVELLY elastic SILT with SAND |
| SP-SM | Poorly graded SAND with SILT<br>Poorly graded SAND with SILT and GRAVEL | | |
| SP-SC | Poorly graded SAND with CLAY (or SILTY CLAY)<br>Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL) | OH | ORGANIC fat CLAY<br>ORGANIC fat CLAY with SAND<br>ORGANIC fat CLAY with GRAVEL<br>SANDY ORGANIC fat CLAY<br>SANDY ORGANIC fat CLAY with GRAVEL<br>GRAVELLY ORGANIC fat CLAY<br>GRAVELLY ORGANIC fat CLAY with SAND |
| SM | SILTY SAND<br>SILTY SAND with GRAVEL | | |
| SC | CLAYEY SAND<br>CLAYEY SAND with GRAVEL | OH | ORGANIC elastic SILT<br>ORGANIC elastic SILT with SAND<br>ORGANIC elastic SILT with GRAVEL<br>SANDY ORGANIC elastic SILT<br>SANDY ORGANIC elastic SILT with GRAVEL<br>GRAVELLY ORGANIC elastic SILT<br>GRAVELLY ORGANIC elastic SILT with SAND |
| SC-SM | SILTY, CLAYEY SAND<br>SILTY, CLAYEY SAND with GRAVEL | | |
| PT | PEAT | OL/OH | ORGANIC SOIL<br>ORGANIC SOIL with SAND<br>ORGANIC SOIL with GRAVEL<br>SANDY ORGANIC SOIL<br>SANDY ORGANIC SOIL with GRAVEL<br>GRAVELLY ORGANIC SOIL<br>GRAVELLY ORGANIC SOIL with SAND |
| | COBBLES<br>COBBLES and BOULDERS<br>BOULDERS | | |

## FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1131 | 1132 |

Gary Parikh 7/28/10
GEOTECHNICAL PROFESSIONAL DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH No. G.E. 666 Exp. 12/31/11 GEOTECHNICAL — STATE OF CALIFORNIA

*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.*

SAN JOAQUIN COUNCIL OF GOVERNMENTS
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

## APPARENT DENSITY OF COHESIONLESS SOILS

| Description | SPT $N_{60}$ (Blows / 12 inches) |
|---|---|
| Very loose | 0 - 4 |
| Loose | 5 - 10 |
| Medium Dense | 11 - 30 |
| Dense | 31 - 50 |
| Very Dense | > 50 |

## MOISTURE

| Description | Criteria |
|---|---|
| Dry | Absence of moisture, dusty, dry to the touch |
| Moist | Damp but no visible water |
| Wet | Visible free water, usually soil is below water table |

## PERCENT OR PROPORTION OF SOILS

| Description | Criteria |
|---|---|
| Trace | Particles are present but estimated to be less than 5% |
| Few | 5 to 10% |
| Little | 15 to 25% |
| Some | 30 to 45% |
| Mostly | 50 to 100% |

## PARTICLE SIZE

| Description | | Size |
|---|---|---|
| Boulder | | > 12" |
| Cobble | | 3" to 12" |
| Gravel | Coarse | 3/4" to 3" |
| | Fine | No. 4 to 3/4" |
| Sand | Coarse | No. 10 to No. 4 |
| | Medium | No. 40 to No. 10 |
| | Fine | No. 200 to No. 40 |

John Fujimoto
DESIGN OVERSIGHT John Fujimoto
8-2-10
SIGN OFF DATE

DRAWN BY O. GOUTHIER
CHECKED BY D. WANG

S. DUDDU - A. R. BHARADWAJ
FIELD INVESTIGATION BY:
DATE: MARCH 2009 - APRIL 2009

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILES 32.10

# FIVE MILE SLOUGH CULVERT MODIFICATION
## SOIL LEGEND 2 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 10/16/09 | 12/04/09 | 01/15/10 | 04/28/10 | 06/11/10 | 7/28/10

SHEET 12 OF 13

FILE => 29-xxxxrl-z-ltb02.dgn

USERNAME => rtreford DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:01

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 10 | SJ | 5 | 25.0/32.7 | 1132 | 1132 |

GEOTECHNICAL PROFESSIONAL — 7/28/10 DATE

10-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/11 — GEOTECHNICAL — STATE OF CALIFORNIA

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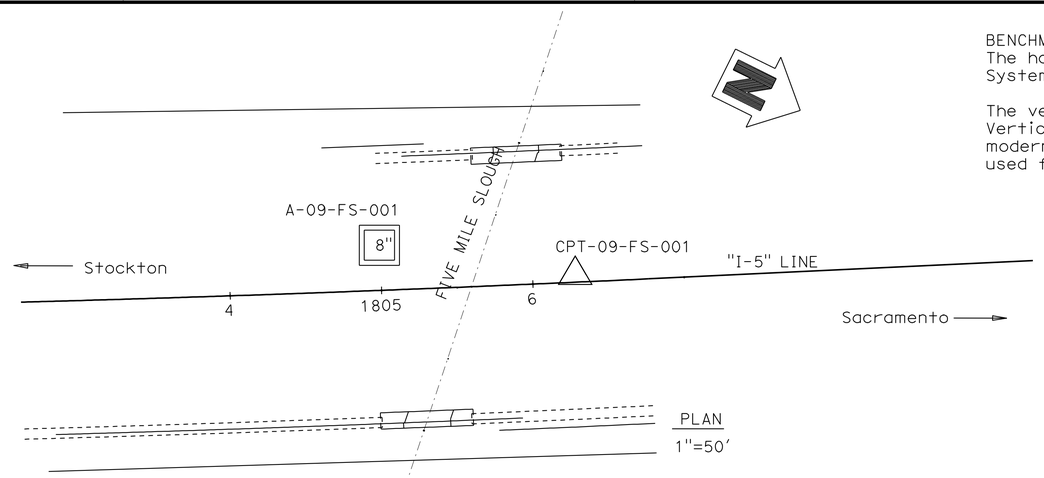
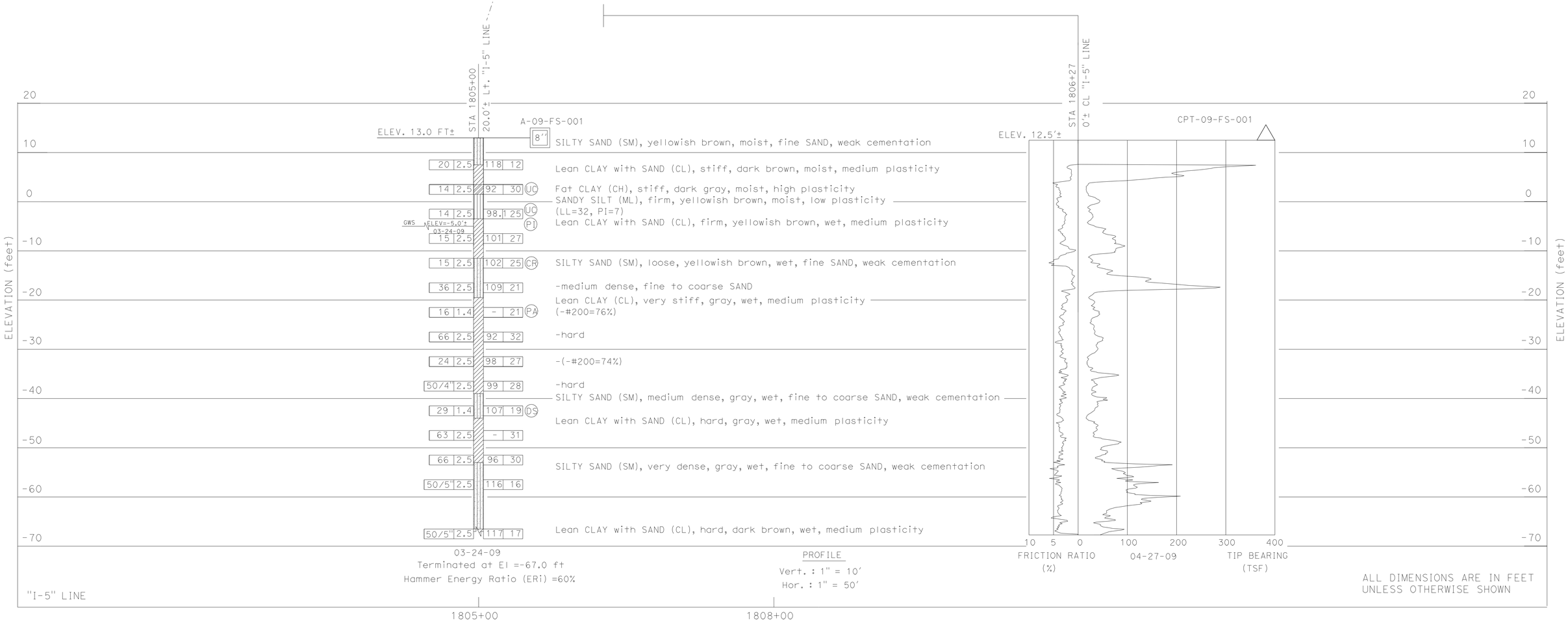
555 EAST WEBER AVENUE
STOCKTON, CALIFORNIA 95202

PARIKH CONSULTANTS, INC.
2360 QUME DRIVE, SUITE A
SAN JOSE, CA 95131

BENCHMARK:
The horizontal coordinates values are in the California Coordinate System (CCS 83) Zone 3, Epoch Date 2007.00, in U.S. survey feet.

The vertical control values are based on the North American Vertical Datum of 1988 (NAVD88) in U.S. survey feet, height modernization survey station, (2007.00) and GEOID03 was used for the adjustment.




John Fujimoto
DESIGN OVERSIGHT — John Fujimoto
8-2-10
SIGN OFF DATE

DRAWN BY: O. GOUTHIER
CHECKED BY: D. WANG

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FIELD INVESTIGATION BY:
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PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO. N/A
POST MILES 32.10

# FIVE MILE SLOUGH CULVERT MODIFICATION

# LOG OF TEST BORINGS

OGS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 06-01-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 06240
EA 0G4701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

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SHEET 13 OF 13

FILE => 29-xxxxr1-z-1tb03.dgn

USERNAME => trlenard DATE PLOTTED => 14-OCT-2010 TIME PLOTTED => 08:01